

FLIGHT

The
AIRCRAFT
ENGINEER
&
AIRSHIPS

First Aeronautical Weekly in the World. Founded January, 1909.

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM

No. 984. (No. 44. Vol. XIX.)

NOVEMBER 3, 1927

Weekly, Price 6d.
Post free, 7d.

Flight

The Aircraft Engineer and Airships

Editorial Offices: 36, GREAT QUEEN STREET, KINGSWAY, W.C.2
Telephone: Gerrard 1828. Telegrams: Truditor, Westcent, London.

Annual Subscription Rates, Post Free.
United Kingdom ... 30s. 4d. Abroad ... 33s. 6d.*

* Foreign subscriptions must be remitted in British currency.

CONTENTS

	PAGE
Editorial Comment:	
Ignition-Compression Engines	757
A Very Fine Flight	758
A New De Havilland for Australia	759
Heinkel H.D.40	760
Royal Aero Club Official Notices	762
World's Records in Aviation	763
Air Traffic in Italy During 1926	763
Private Flying: Suffolk Club's Meeting at Hadleigh	765
Light 'Plane Clubs	768
Airisms from the Four Winds	769
High Speed Compression-Ignition Engine Research: By H. B. Taylor	770
Royal Air Force	771
Correspondence	772
Personals	772

"FLIGHT" PHOTOGRAPHS.

To those desirous of obtaining copies of "Flight" Photographs, these can be supplied, enlarged or otherwise, upon application to Photo. Department, 36, Great Queen Street, W.C.2

For Sizes and Prices, see Advert. on page iii.

DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list:—

1927

- Nov. 3 ... Joint Meeting. "High Speed Compression Ignition Engine Research." Mr. H. B. Taylor, before R.Ae.S. and I.A.E.
- Nov. 9 ... "Commercial Air Routes." Air Vice-Marshal Sir Sefton Brereton, before Royal United Service Inst.
- Nov. 17 ... "The use of the Wind Tunnel in the Prediction of Aeroplane Performance." Mr. R. K. Pierson, before R.Ae.E. and I.A.E.E.
- Nov. 24 ... "Modern Developments in Aircraft Instruments." Maj. C. J. Stewart, before R.Ae.S. and I.A.E.E.
- Dec. 1 ... "The Problem of the Long Range Flying Boat." Maj. J. D. Rennie, before R.Ae.S. and I.A.E.E.

EDITORIAL COMMENT.



ALTHOUGH offering a most interesting field for research and experiment, and holding out a reasonable promise of ultimate success, the high-speed compression-ignition aero engine does not appear yet to be an immediate possibility, at least in so far as the position may be judged from the paper Mr. H. B. Taylor is reading this week before the R.Ae.S., I.A.E. The lecturer records results with a single-cylinder experimental unit at the R.A.E. of a brake mean effective pressure of 121 lb. per sq. in., with a fuel consumption (using shale oil) of 0.4 lb. per brake horse-power hour. This was at a speed of 1,000 r.p.m., and with an excess-air coefficient of approximately 1.3. With the same engine unit, running at the same speed, but using petrol for fuel, the brake mean effective pressure was 134 lb. per sq. in., and the fuel consumption was 0.49 lb. per horse-power hour. As pointed out by the lecturer, this corresponds to a reduction in consumption of 18 per cent., while the reduction in power was but 10 per cent. Another advantage of this type of engine over the petrol engine is stated by the lecturer to be that as the torque is reduced, so is the specific fuel consumption. In actual figures, the maximum recorded brake thermal efficiency was 38 per cent. at 1,000 r.p.m., the brake mean effective pressure being 78 lb. per sq. in., and the fuel consumption 0.358 lb. per brake horse-power hour. The best indicated thermal efficiency was 46.7 per cent. at the same speed, the indicated brake mean effective pressure being 74.2 lb. per sq. in., and the fuel consumption 0.297 lb. per brake horse-power hour.

On the score of weight per horse-power, the lecturer estimates that the compression-ignition engine will weigh from 1 to 2 lb. per brake horse-power more than the corresponding size and type of petrol engine, the lower figure applying to the radial air cooled and the higher to the water-cooled in-line. Taking an engine weighing 1 lb. per h.p. more, but consuming 0.1 lb. per h.p. less fuel per hour, there is no saving in weight of engine and fuel for a flight of 10 hours' duration, but a progressive saving is effected as the duration increases.

The sum total of the lecture appears to be that for airship work where flights of several times 10 hours' duration is contemplated, the compression-ignition engine seems to be a possibility of the near future, but for heavier-than-air craft it will, we are afraid, be some time before this type can become a serious rival to the petrol engine. Until further research enables good combustion to be obtained at much higher speeds, the present type of engine is likely to hold its own. That is not, of course, a reason for abandoning work on the compression-ignition, or semi-Diesel type. Far from it. But our plans for the near future of commercial aviation cannot yet safely be allowed to take into account any possible improvements in this direction.

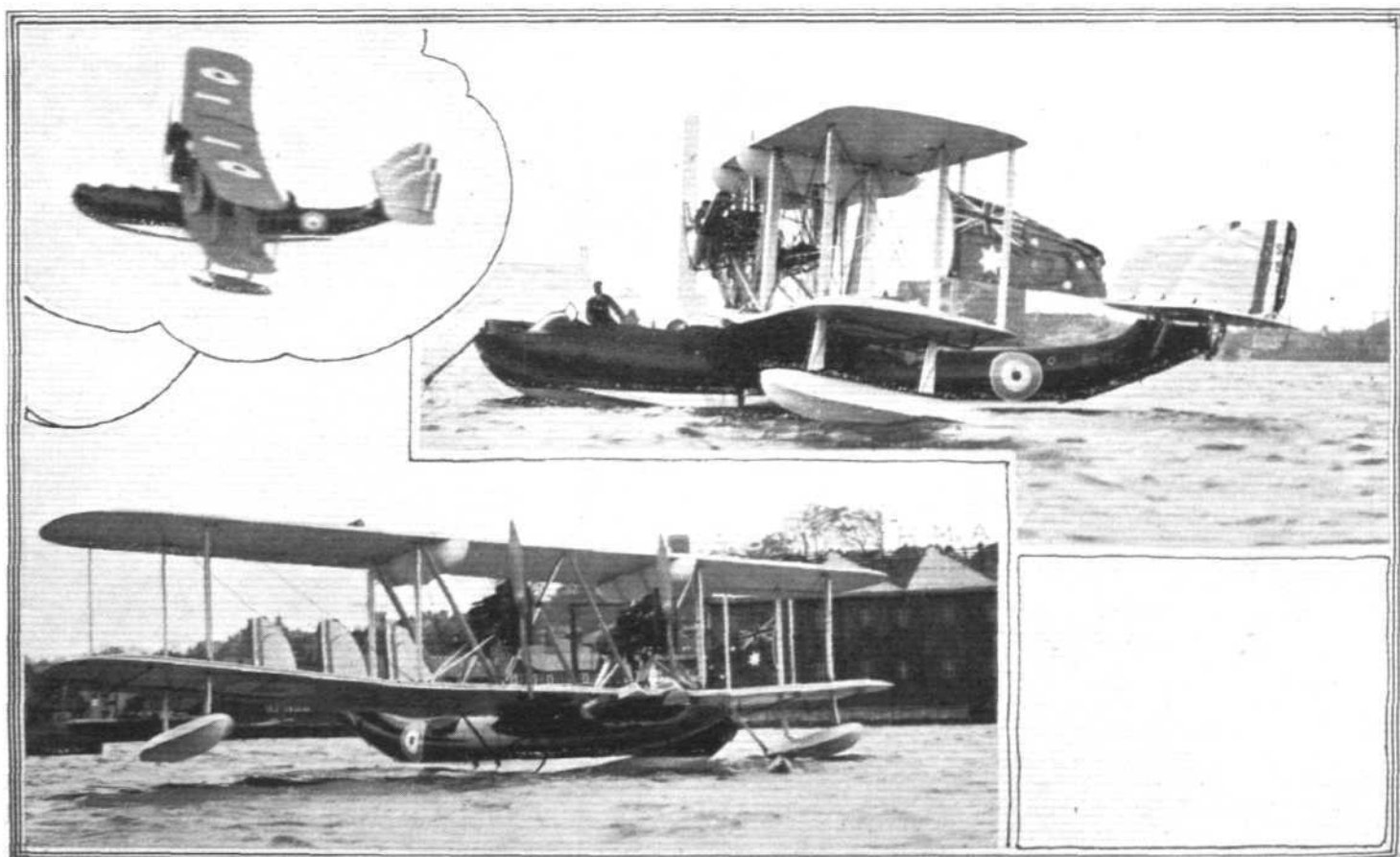
In all these considerations it appears that the assumption is made that the avoidance of an electric ignition system is likely to lead to greater reliability. It is true that this part of an aero engine's accessories does occasionally give trouble, but on the other hand, one has no guarantee that the fuel injection system of the semi-Diesel type will not give at least as much trouble, so that we personally think it unwise to be too optimistic on this score.

We are all in favour of keeping in front of us the compression-ignition engine as an ideal to strive for, but in the meantime the normal petrol engine can still take us far with much less costly research. The subject of reduction gears alone holds out a very promising field, and it is fairly safe to assume that long before the compression-ignition engine is a practical proposition, the geared petrol engine with variable pitch airscrew will be in regular use, and will have further reduced the difference in efficiency between the two types, thus giving the semi-Diesel still greater leeway to catch up.

A Very Fine Flight

A flight of much greater practical value than all the transatlantic attempts made since Lindbergh proved the New York-Paris flight possible was accomplished by a Dutch pilot on a Dutch machine fitted with British engines during last month. We refer, of course, to the Amsterdam-Batavia-Amsterdam flight made by Lieut. Koppen and his companions in a Fokker F. VII 3-m. fitted with three Armstrong-Siddeley "Lynx" engines. Starting from the Schiphol aerodrome on October 1, 1927, the Fokker monoplane reached the Tjilitjan aerodrome, Batavia, on October 10, having covered the 8,750 miles in 9 days which constitutes a "record" for this route. After a stay of a week in Batavia, the Fokker monoplane resumed the return journey on October 17, and reached Amsterdam on October 28, having done the return trip in one day more than the outward journey, and completed the out and home flight well within the calendar month.

As a practical example of how air mails of the near future may, and will, enable a real saving in time to be effected, this flight is of surpassing interest, and for us in Great Britain it is a matter for satisfaction that British engines were used. So far as can be gathered, the three Armstrong-Siddeley "Lynx" engines behaved splendidly throughout in spite of the strenuous nature of the flight, covering as much as 1,375 miles in one day on the homeward trip (Aleppo-Belgrade), and several other "hops" of more than 1,000 miles in a day. For the endurance and determination of the crew also one has the very greatest admiration. They have shown, by their individual effort, what could be done later by relays of machines and pilots over an organised air mail route.



"SOUTHAMPTONS" FOR AUSTRALIA: These photographs show the first of the Supermarine "Southamptons" built for the Royal Australian Air Force. Two of these machines, fitted with Napier "Lion" engines, will be sent out by steamer, and will join up with the Far East Flight now proceeding. The Australian machines are similar to those of the Far East Flight, except for the fact that they have wood hulls

A NEW DE HAVILLAND AEROPLANE

The D.H.61 is Designed Specially for Dominion Conditions

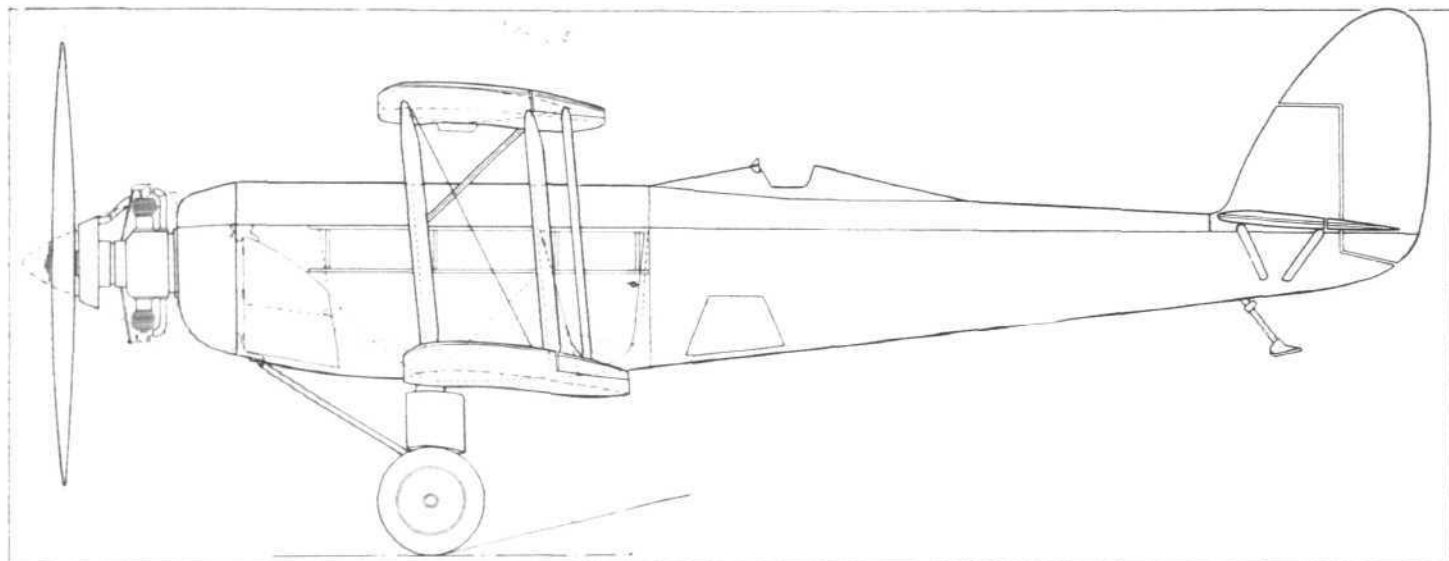
In spite of the agitation for the three-engined commercial aeroplane and the fairly extensive use made of this type during the last year or so, it would be a fallacy to suppose that the single-engined commercial machine is already a thing of the past. The question of reliability, using the word in the sense of absence of forced landings between regular 'dromes of call, is not the only one to be taken into consideration, and one may easily imagine circumstances in which the single-engined machine of medium size and power meets the case rather than a large three-engined "air liner." For instance, one may imagine a route on which the amount of traffic is not yet such as to give reasonable promise of filling a very large machine, while the country over which the route runs is such that a forced landing is not likely to result in anything more serious than a delay. Clearly, under such conditions, there is little object in using a costly three-engined aeroplane which is likely to fly with half load, or less, on most of its journeys, and the immunity of which from forced landings is not an essential quality. A new machine, which is the result of considerations such as these, is now nearing completion at the Stag Lane works of the De Havilland Aircraft Company, and although a detailed description

the D.H.61 the two bent axles cross each other in order to give a better angle and avoid too sharp a bend in the axle tube. The track is fairly wide, so that the machine should handle well on the ground.

The cabin has two curved plywood seats running across it, one against the forward bulkhead and one against the aft, the front passengers sitting with their backs towards the engine and the others facing the engine. If desired, reserve seats (2) can be placed midway between the permanent ones, thus increasing the passenger accommodation to eight.

Large luggage spaces are another feature of the design, one very large compartment being situated between cabin and engine bulkhead, and extending underneath the forward seat. The second luggage compartment is placed after of the cabin, under the pilot's cockpit.

A feature of the D.H.61 about which very possibly opinions may be divided, is the placing of the pilot's cockpit far aft in the fuselage. In this respect, the 61 resembles the famous 50. There is, however, this important difference, that the 50 is a relatively small machine, so that the forward view is not very much obstructed. In the 61, with its wide fuselage, a greater angle of vision is blanketed, but this has been over-



A NEW DE HAVILLAND FOR AUSTRALIA: Side elevation of the D.H.61, with Bristol "Jupiter" engine. Note the placing of the pilot's cockpit in a raised position aft of the cabin so as to improve the view.

cannot yet be given, it is thought that a few notes dealing with the D.H.61 may be of interest, as well as the side elevation accompanying these notes.

Designed and built to the order of an Australian firm for use between Broken Hill and Adelaide, the D.H.61 is a single-engine biplane fitted with a Bristol "Jupiter" engine and having cabin accommodation for 6-8 passengers, as well as ample luggage space and a considerable range at its cruising speed of 100 m.p.h. or so.

Constructionally, the de Havilland 61 is a perfectly normal machine, with the usual ply-wood fuselage which this firm has utilised with such great success for a number of years, and with biplane wings also of standard de Havilland type. In certain respects, however, the 61 gives evidence of the fact that it has been specially designed with Australian conditions in view.

To begin with, a feature of the machine which is apparent at once (although the side elevation published herewith does not show it) is the divided undercarriage, *i.e.*, without any axle or other horizontal member running across from one wheel to the other. This type, which has been relatively little used in this country, has become, one might almost say, standard in the United States, the reason for its adoption being that it is claimed to have less tendency to trip up a machine when alighting in long grass, or in a cornfield. In

come to some extent by raising the cockpit above the general level of the fuselage. It is admitted that there are still "blind spots," but the general weather conditions in Australia are such that good visibility can usually be counted upon, while there are advantages in placing the pilot aft. For instance, irrespective of whether the machine is flying light or fully loaded, the trim is unaffected, while in a machine with the pilot in front, it is necessary to carry ballast when only a small load is being carried.

The engine of the D.H.61 will be a Bristol "Jupiter," Series VI. We gather that it had been the intention to instal one of the geared "Jupiters," but that none could be spared at the moment for civilian work. Otherwise, there is little doubt that both take-off and climb would have been even better than those calculated for the direct-drive engine. Direct gravity feed is employed, the petrol being carried in a centre-section tank as in the 50, the "Moth," and many other de Havilland machines.

The D.H.61 is rapidly nearing completion, and it is expected that, weather conditions permitting, the first flying tests will take place in about one month's time. Further details must be withheld until then, but it may be said that the machine is in the 6,000 lbs. class, the total loaded weight being some few hundred pounds above that figure. Performance figures are not available at present.

The Light 'Plane Altitude Record

THE Royal Aero Club announce that the height attained by Lady Heath (formerly Mrs. S. C. Elliott-Lynn) on October 8 last on the Avro Avian was 5,268 m. (17,280 ft.). This

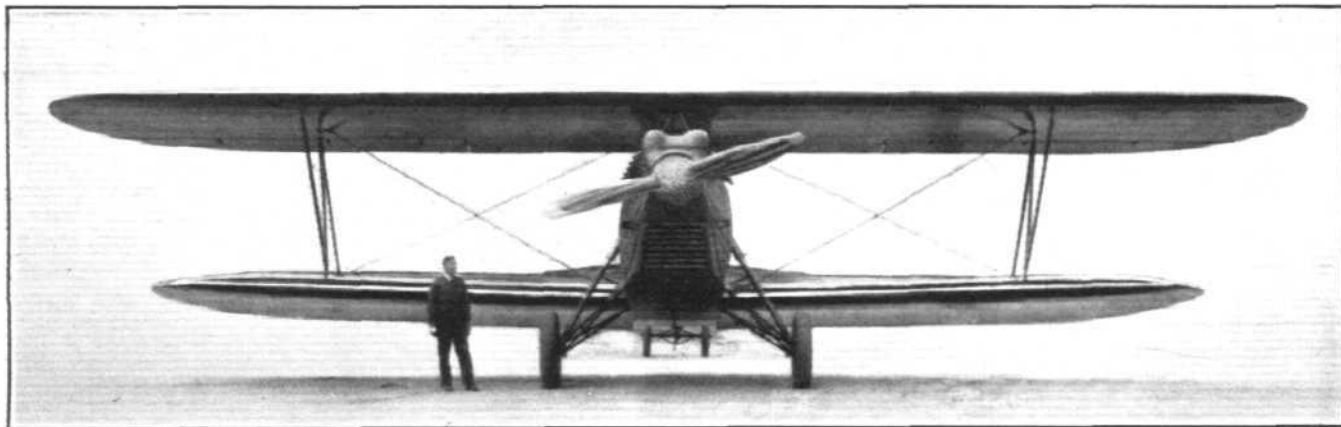
height is exactly the same as that accomplished by the Hon. Lady Bailey on a D.H. "Moth" on July 5 last. The altitude record for the Two-Seater Class Light Aeroplane is therefore still retained by the Hon. Lady Bailey.

A GERMAN NEWSPAPER CARRIER

The Heinkel H.D. 40

THE chief of the Heinkel Aircraft Works, Ltd., of Warnemünde, Dr. Ernst Heinkel, is one of the pioneers of German aviation, having been actively engaged upon aircraft design and/or construction since the early days of aviation. In recent years, Dr. Heinkel has been rather less in the public eye, but has nevertheless been working along quietly and steadily. He has produced several aircraft types of late, and the machine which forms the subject of the following descriptive notes is the latest of which particulars have become available. The new Heinkel biplane, known as the type H.D.40, was specially

The flat-sided fuselage is of welded steel tube construction, with four tubular longerons, to which are welded the vertical and horizontal struts, the bracing being by wire in the rear portion, and by diagonal welded-in tubes in front, where local considerations demand the more rigid arrangement. Covering is by fabric, except in the nose and neighbourhood of the pilot's cockpit, where aluminium is used. The fabric is so attached by lacing that it can be readily removed for purposes of inspecting the fuselage structure. The engine support is in the form of a steel tube unit, attached to the fuselage proper



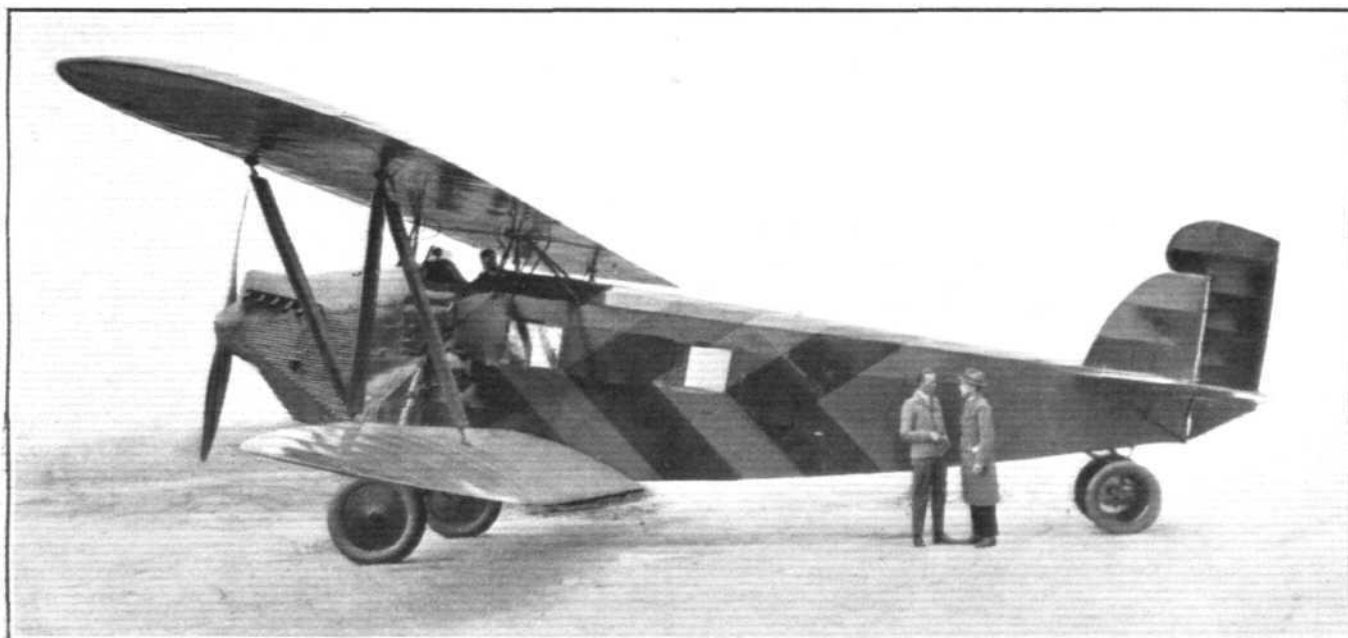
The Heinkel H.D.40 Commercial Aeroplane : Front View

designed to carry newspapers, and a fairly high cruising speed was desired (about 100 m.p.h.), but a very simple alteration enables the machine to be converted into a passenger carrier. Apart from its technical features, the Heinkel is mainly of interest on account of the fact that it is fitted with one of the new B.M.W. engines, of 500-600 h.p., and is thus one of the most powerful single-engined German civil machines of recent years.

The Heinkel H.D. 40 is a development of, and somewhat larger, as well as more powerful than, the Heinkel H.D.39,

by four bolts only. The fuselage itself terminates in front in a fireproof bulkhead, and it is to the four corners of this that the engine unit is bolted.

The pilot's cockpit is under the top plane, and contains two seats placed side by side. Access to the cockpit is through a door in the side of the fuselage, and the usual instrument board is provided. In addition, the cockpit is equipped with dual controls, as well as with the duplicate mechanism for discharging the newspapers, this being so arranged that it can be operated either by the pilot or by the engineer. The



The Heinkel H.D.40 Commercial Aeroplane : Three-quarter rear view. The engine is a B.M.W. VI of 465-600 h.p.

which was also a newspaper carrier designed for the famous publishing firm of Ullstein, of Berlin. Whereas the H.D.39 was equipped with the B.M.W. IV, the H.D.40 is, as already stated, fitted with the B.M.W. VI engine. Aerodynamically the new machine is a fairly normal biplane, with but a single pair of struts on each side. Constructionally, it is of the mixed type, in that the fuselage is of welded steel tube construction, while the wings are of all-wood construction with three-ply covering. Light metal is used for lightly-stressed or non-stressed parts only.

cargo space for the newspapers is situated underneath the cockpit, and measures 1.2 x 1.4 x 1.0 m. (3 ft. 9 in. x 4 ft. 7 in. x 3 ft. 4 in.). If it is desired to use the H.D.40 as a passenger machine, the newspaper space can be used for luggage, the release mechanism being, of course, then removed. Behind the cockpit and newspaper space is the cabin proper, which may be used for carrying more newspapers, or, by fitting seats, it can be turned into passenger accommodation (6 to 8 seats). This space measures 1.8 x 1.2 x 3.0 m. (5 ft. 10 in. x 3 ft. 9 in. x 9 ft. 9 in.). In



The Heinkel H.D.40 Commercial Aeroplane taking off for a test flight. The machine has been designed mainly as a newspaper carrier.

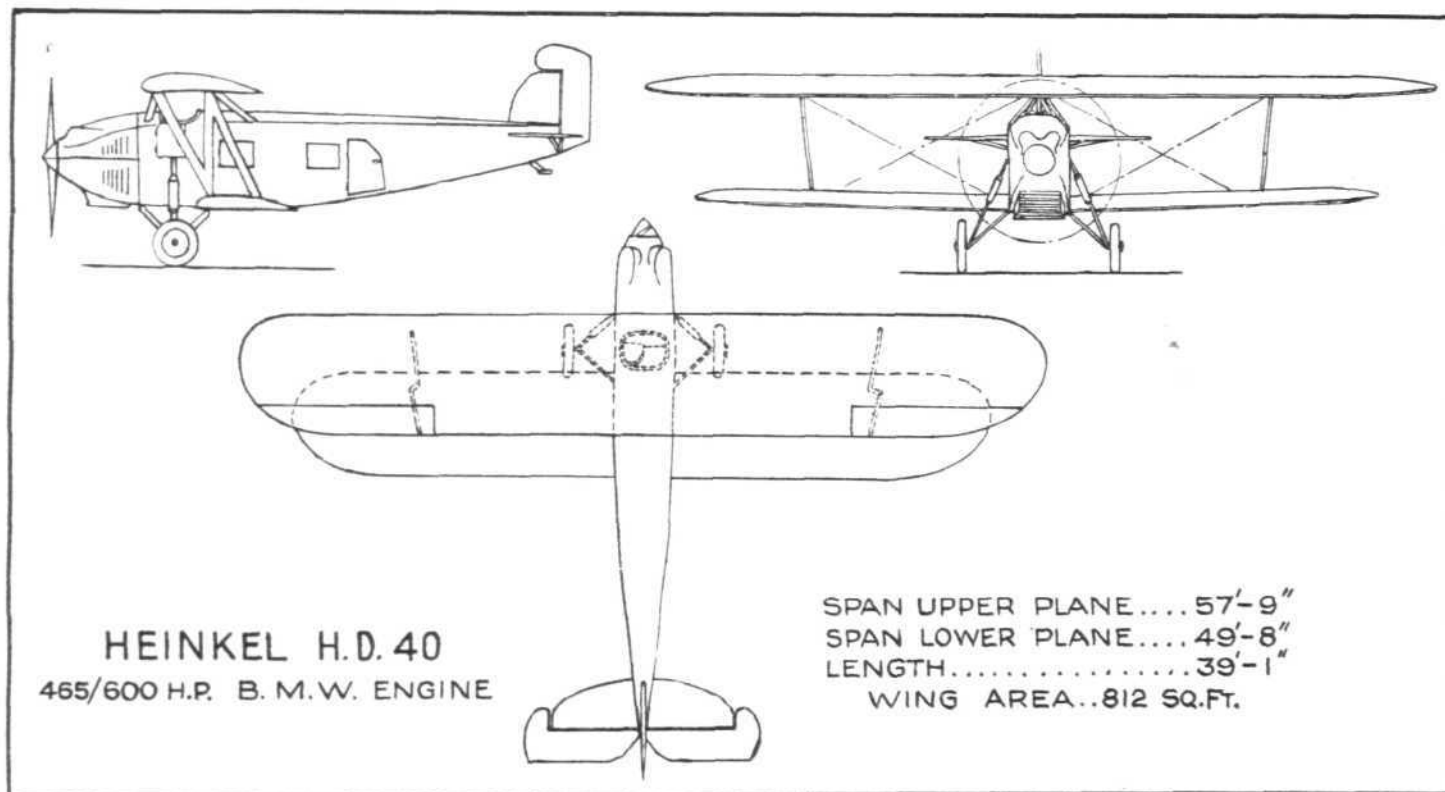
each side of the fuselage there is a door giving access to the cabin. The fittings for wings, undercarriage and tail are welded to the fuselage structure.

As already mentioned, the wings are of wood construction, even to the covering, which is in the form of ply-wood on the underside. The wings, which are in two sections, of which those of the top plane attach to a *cabane*, those of the lower plane to the fuselage, are very heavily staggered, and it will be observed that the rear spar of the top plane is immediately above the front spar, bringing the diagonal member of the "N" struts vertical in side elevation. The wing-bracing consists of streamline wires, the single set used lying

member runs to the top longeron. The shock is absorbed by rubber.

Mounted on the detachable engine bearer is a B.M.W. VI engine, the radiator being built into the fuselage covering below the engine. A water tank is placed inside the engine cowl, as is also the oil tank, which, like the petrol tank, is of sheet brass. The petrol tank is housed in the top plane, so that the feed to the engine is direct by gravity. The fuel capacity, by the way, is sufficient for 4 hours.

Following are the main characteristics of the Heinkel H.D.40 newspaper-carrier: Length overall 11.9 m. (39 ft 1 in.); span of top plane, 17.6 m. (57 ft. 9 in.); bottom plane,



The Heinkel H.D.40 Commercial aeroplane : General Arrangement Drawings.

in the plane of the diagonal member of the "N"-struts, the latter being counted upon to resist torsion. The wing section used is one developed by the Heinkel works in the wind tunnel, but no particulars of it are available.

The tail surfaces are of welded steel tube construction, fabric covered, and both the elevator and the rudder have horn balances. The tail plane can be trimmed during flight, while the vertical fin is adjustable on the ground.

The undercarriage is of the type in which there is no axle, the two Vees being hinged to the fuselage, and carrying, at their lower ends, the short stub axles, while the telescopic

15.15 m. (49 ft. 8 in.); wing area, 75.4 sq. m. (812 sq. ft.). Weight of machine empty, 2,107 kg. (4,635 lbs.); useful load 1,600 kg. (3,522 lbs.), consisting of: Crew of two, 160 kg. (355 lbs.); fuel for 4 hours, 440 kg. (967 lb.); paying, load (newspapers), 1,000 kg. (2,200 lbs.). Total loaded weight, 3,707 kg. (8,157 lbs.). Ratio of useful load to empty weight 0.76; wing loading, 49.2 kg./sq. m. (10 lbs./sq. ft.). Power loading 7.95 kg./h.p. (17.5 lbs./h.p.), based on nominal power. "Wing power": 6.17 h.p. per sq. m. Top speed, 180 km./h. (112 m.p.h.). Landing speed, 75 km./h. (46.6 m.p.h.). Climb to 1,000 m. (3,280 ft.) in 8 minutes.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

THE COMMITTEE—OCTOBER 26

Present :—Lieut.-Col. Sir Francis K. McLean, A.F.C. (in the Chair); Griffith Brewer; Lieut.-Col. M. O. Darby, O.B.E.; E. J. B. How; Lieut.-Col. M. O'Gorman, C.B.; Major H. A. Petre, D.S.O., M.C.; Capt. C. B. Wilson. Harold E. Perrin, Secretary.

Minutes of meeting held on September 14, 1927, were confirmed and signed.

Election of Members.—The following new members were elected :—

J. C. Cantrill.
P. Coombes.
H. S. Kevill-Davies.
W. Fenton.
S. D. Heron.
Pilot Officer W. E. P. Johnson.
Flight-Lieut. A. H. H. MacDonald.
Flight-Lieut. L. G. Paget.
L. O. Short.
Capt. H. M. Yeatman.

Aviators' Certificates.—The following Aviators' Certificates were granted :—

8149	Laurence William Gibbens	London Aeroplane Club.
8150	Lewis Rivers Oldmeadow	Henderson Flying School.
8151	Charles Florance Young (Jr.)	Henderson Flying School.
8152	Robert George Cazalat	Midland Aero Club.
8153	Aage Jes Rasmussen	Newcastle-on-Tyne Aero Club.
8154	John Herbert Veasey	London Aeroplane Club.
8155	Thomas Walter Mitchell	De Havilland School.
8156	Eric Herschel Fisher	Lancashire Aero Club.
8157	Geoffrey Clarence Bonner	London Aeroplane Club.
8158	Salim Sassoon Daniel	Henderson Flying School.
8159	William Frederick Buchanan	De Havilland School.
8160	Dagny Hansen Berger	De Havilland School.
8161	Hamilton Jackson Starke	De Havilland School.
8162	Herbert Abraham Pank	R.A.F. Cranwell.
8163	Sidney Horace Smith	Midland Aero Club.
8164	John Edward Tratman	Bristol & Wessex Aeroplane Club.

8165	Oliphant James Philipson	Henderson Flying School.
8166	Geoffrey Frederick Simond	De Havilland School.
8167	Richard Davenport Bednell	Midland Aero Club.
8168	Robert Henry Slater	R.A.F. Graduation Certificate.
8169	Eric Alexander Boyd	Henderson Flying School.
8170	John Alexander Anderson	Lancashire Aero Club.
8171	William Partridge Cubitt	Norfolk & Norwich Aero Club.

World's Records : Two-seater Light Aeroplanes.—The report of the National Physical Laboratory, giving the height attained by Mrs. Elliott-Lynn on October 8 as 5,268 metres, was answered. As this did not exceed the existing record held by the Hon. Lady Bailey, no action was taken.

Schneider Race.—The recommendations of the Schneider Committee, 1927, were considered and referred to the Schneider Committee, 1928.

The following Committee was appointed for the Schneider Race, 1928 :—

Royal Aero Club : Lieut.-Col. M. O'Gorman, C.B.; Lieut.-Col. W. A. Bristow; Lieut.-Col. M. O. Darby, O.B.E.; Capt. C. B. Wilson, M.C.

Air Ministry : Wing-Commndr. S. W. Smith, O.B.E.; Major J. S. Buchanan, O.B.E.

Society of British Aircraft Constructors : Three representatives to be nominated by them.

Exhibition of Winning Schneider Seaplane.—The arrangements for the exhibit of the Supermarine S5, together with the Schneider Trophy, in the Horse Guards Parade were reported and approved.

Affiliation of the Aero Club of Africa.—The affiliation of the Aero Club of Africa was confirmed.

The application for affiliation from the Aero Club of Kenya was considered and approved.

Petroleum Distributors' Committee Fund of £1,000 to Assist Light Aeroplane Clubs.—The application from the Yorkshire Aeroplane Club for the last £200 donation from the above Fund was considered and agreed to.

Offices: THE ROYAL AERO CLUB,
3, CLIFFORD STREET, LONDON, W. 1.
H. E. PERRIN, Secretary.

ASSOCIATED CLUBS' GENERAL COUNCIL

The first meeting of the Associated Clubs' General Council will be held at the Royal Aero Club on Tuesday, November 29 next, at 11 a.m.

Several important matters are down for discussion, including the fixing of a definite Racing Programme for 1928, and the revision of the Tests for an "A" Licence.

The following Clubs are represented on the General

Council :—The Royal Aero Club, Bristol & Wessex Aeroplane Club, Felixstowe Light Aeroplane Club, Halton Aero Club, Hampshire Aeroplane Club, Lancashire Aero Club, London Aeroplane Club, Midland Aero Club, Newcastle-upon-Tyne Aero Club, Norfolk & Norwich Aero Club, Royal Aircraft Establishment Aero Club, Suffolk Aeroplane Club, Yorkshire Aeroplane Club.

The Royal Aeronautical Society and the Institution of Aeronautical Engineers

AN informal discussion and house dinner will be given on November 15 at the Royal Aero Club. The dinner will be given at 7.30 sharp, and the discussion will be closed at 10.30. The number of seats available is strictly limited to 60, and the price of the dinner will be 6s. per head, which will be collected from the members at the conclusion of the dinner. The discussion, on "Are Aero Engines Reliable?" will be opened by Mr. Foord, of the Air Ministry, and opposed by Mr. A. E. L. Chorlton. Members who wish to attend must give early notification on account of the limited accommodation.

No. 3 Squadron, R.F.C., and No. 3 (Fighter) Squadron, R.A.F. Fourth Annual Re-union Dinner

THE above dinner will be held at the Trocadero at 19.45 for 20.00 hours on Friday, December 2. Air Marshal Sir John Maitland Salmond, K.C.B., C.M.G., C.V.O., D.S.O., will take the chair. Tickets at 12s. 6d. (wines extra, gratuities included) will be obtainable at the dinner. Former

members of the squadron wishing to attend are requested to inform the Secretary, Re-union Dinner Club, No. 3 (Fighter) Squadron, Royal Air Force, Upavon, Wilts.

The Royal Air Force Memorial Fund

THE usual meeting of the Grants Sub-Committee of the Fund was held at Iddesleigh House on October 20. Mr. W. S. Field was in the Chair, and the other members of the Committee present were :—Mrs. L. M. K. Pratt-Barlow, O.B.E., and Sqdn.-Leader Douglas Iron, O.B.E. The Committee considered in all 19 cases, and made grants to the amount of £161.

Royal Air Force Flying Accidents

THE Air Ministry regrets to announce that as the result of an accident at Leuchars to a Fairey 3D machine of Royal Air Force Training Base, Leuchars, on October 20, Flying Officer William Harvey Osborne Rumbitt, the pilot of the aircraft, was killed. No. 364080 Aircraftman Herbert William Furness and 364328 Aircraftman Francis William Tomlinson, passengers in the aircraft, were seriously injured, and the latter died of his injuries the same evening.

WORLD'S RECORDS IN AVIATION

In our issue for February 10, 1927, we published a list of the world's aviation records, as standing on December 31, 1926, compiled from the official bulletin by the F.A.I. We give below a list of those records established since that date, and standing on September 30 last, that have beaten the previous ones made prior to 1927. It should be noted that several records have been bettered since those established as per list below, but which are not included.

CLASS A (BALLOONS)

Categories 6, 7 and 8

Altitude.—8,960 m. (27,605·7 ft.), U.S.A., Capt. H. C. Gray, March 9, 1927.

CLASS C (POWER-DRIVEN AEROPLANES)

(a) Records without refuelling during flight

Distance (Non-Stop).—4,660·628 kms. (2,896·1 miles), Germany, Edzard and Risetics on Junkers W.33, 230 h.p. Junkers L-5, Dessau, August 3-4-5, 1927.

Duration (Non-Stop).—52 hrs. 22 mins. 31 secs., Germany. As above.
Distance (Non-Stop) Cross-Country.—6,294 kms. (3,911·1 miles), U.S.A., Clarence D. Chamberlin, on Bellanca monoplane, 200 h.p. Wright J-5, Roosevelt Field (U.S.A.)—Helfta (Germany), June 4-6, 1927.

Altitude.—11,145 m. (36,565·7 ft.), France, Sadi Lecoq, on Nieuport-Delage, 300 h.p. Hispano-Suiza, at Issy, October 30, 1923.

Records with 500 kgs. (1,102 lbs.) Useful Load

Duration.—22 hrs. 11 mins. 45 secs., Germany, W. N. Schnäbele and Fritz Loose, on Junkers W.33-D.921, 320 h.p. Junkers L-5, at Dessau, March 21-22, 1927.

Distance.—2,735·586 kms. (1,700·89 miles), Germany. As above.
Speed, 2,000 kms. (1,242·8 miles).—205·407 k.p.h. (127·6 m.p.h.), Germany, H. Steindorff, on Rohrbach-Roland, three, 230 h.p. B.M.W., at Staaken, July 31, 1927.

Records with 1,000 kgs. (2,205 lbs.) Useful Load

Duration.—14 hrs. 23 mins. 45 secs., Germany, Fritz Horn, on Junkers G-24, three 230 h.p. Junkers, at Dessau, April 4, 1927.

Distance.—2,315·338 kms. (1,438·7 miles), Germany, H. Steindorff, on Rohrbach-Roland, three 230 h.p. B.M.W., at Staaken, July 31, 1927.
Altitude.—6,805 m. (22,327·2 ft.), Germany, Hermann Steindorff, on Rohrbach-Roland, three 230 h.p. B.M.W., at Staaken, August 12, 1927.

Speed, 500 kms. (310·7 miles).—215·378 k.p.h. (133·8 m.p.h.), Germany, Hermann Steindorff, on Rohrbach-Roland, three 230 h.p. B.M.W., at Staaken, July 28, 1927.

1,000 kms. (621·4 miles).—214·855 k.p.h. (133·2 m.p.h.), Germany. As above.

2,000 kms. (1,242·8 miles).—205·407 k.p.h. (127·6 m.p.h.), Germany. As above.

Records with 2,000 kgs. (4,410 lbs.) useful load

Duration.—13 hrs. 1 min. 121 secs., Germany, J. Risetics, on Junkers G-24, three 280 h.p. Junkers, at Dessau, June 29, 1927.

Distance.—1,750·469 kms. (1,087·7 miles), Germany, Hermann Steindorff, on Rohrbach-Roland, three 230 h.p. B.M.W., at Staaken, July 31, 1927.
Altitude.—6,262 m. (20,545·6 ft.), Italy, Domenico Antonini, on Caproni Ca-73, two 500 h.p. "Asso," at Cascina Malpensa, May 26, 1927.

Speed, 100 kms. (62·14 miles).—216·107 k.p.h. (134·1 m.p.h.), Germany, Hermann Steindorff, on Rohrbach-Roland, three 230 h.p. B.M.W., at Staaken, July 29, 1927.

500 kms. (310·7 miles).—215·378 k.p.h. (133·8 m.p.h.), Germany, Hermann Steindorff, on Rohrbach-Roland, three 230 h.p. B.M.W., at Staaken, July 28, 1927.

1,000 kms. (621·4 miles).—214·855 k.p.h. (133·2 m.p.h.), Germany. As above.

LIGHT AEROPLANES

(a) Two-seaters not exceeding 400 kgs. (882 lbs.)

Distance (Closed Circuit).—600 kms. (372·8 miles), Czechoslovakia, Capt. V. Varlav Vlcek and V. Charousek, on Avia B.9.4, 60 h.p. Walter, at Praha, July 26, 1927.

Altitude.—5,268 m. (17,284·3 ft.), Great Britain, The Hon. Lady Bailey and Mrs. G. de Havilland, on D.H. Moth, 30-80 h.p. Cirrus II, at Stag Lane, July 5, 1927.

Speed, 100 kms. (62·14 miles).—191·959 k.p.h. (119·2 m.p.h.), Germany, Paul W. Bäumer and F. Puls, on Bäumer monoplane, 60 h.p. Wright, at Hamburg-Fuhlsbüttel, July 10, 1927.

(b) Single-seaters, 200-350 kgs. (441-771·7 lbs.)

Distance (Closed Circuit).—1,535·200 kms. (953·9 miles), France, Delmotte, on Caudron monoplane, 40 h.p. Salmson, at Villacoublay, August 28, 1927.

Distance (Non-Stop).—1,228 kms. (763 miles), Czechoslovakia, Hamsik, on Avia monoplane, 60 h.p. Walter, Praha—Reval, September 9, 1927.

Altitude.—6,782 m. (22,251·7 ft.), Germany, Paul W. Bäumer, on Bäumer monoplane, 60 h.p. Wright, at Hamburg-Fuhlsbüttel, July 8, 1927.

Speed, 100 kms. (62·14 miles).—300·100 k.p.h. (186·4 m.p.h.), Great Britain, Capt. H. S. Broad, on D.H. "Tiger-Moth," 32-130 h.p. D.H., at Stag Lane, August 24, 1927.

CLASS CBIS (SEAPLANES)

Distance.—1,702·8 kms. (1,058·1 miles), Germany, Loose, on Junkers W.33-D.921, 320 h.p. Junkers L.V. Aken-s. Elbe, March 29, 1927.

Altitude.—11,581 m. (37,997·1 ft.), U.S.A., Lieut. C. Champion, on Wright-Apache, 425 h.p. Pratt and Whitney "Wasp," at Washington, July 4, 1927.

Speed, 1,000 kms. (621·4 miles).—210·716 k.p.h. (130·9 m.p.h.), U.S.A., Lieut. R. Irvine, U.S.N., on Vought-Corsair, 425 h.p. Pratt and Whitney "Wasp," at Hampton Roads, May 21, 1927.

Records with 500 kgs. (1,102 lbs.) Useful Load

Duration.—14 hrs. 8 mins. 2 secs., Germany, Loose, on Junkers W.33-D.921, 320 h.p. Junkers L.V. Aken-s. Elbe, March 29, 1927.

Distance.—1,702·8 kms. (1,058·1 miles), Germany. As above.

Altitude.—6,760 m. (22,179·5 ft.), U.S.A., Lieut. G. B. Henderson, on Vought-Corsair, 425 h.p. Pratt and Whitney "Wasp," Washington, April 14, 1927.

Speed, 100 kms. (62·14 miles).—236·998 k.p.h. (147·2 m.p.h.), U.S.A., Lieut. S. W. Callaway, on Vought-Corsair, 425 h.p. Pratt and Whitney "Wasp," Hampton Roads, April 23, 1927.

500 kms. (310·7 miles).—218·908 k.p.h. (136 m.p.h.), U.S.A., Lieut. J. D. Barner, U.S.N., on Vought-Corsair, 425 h.p. Pratt and Whitney "Wasp," at Hampton Roads, April 30, 1927.

Speed, 1,000 kms. (621·4 miles).—181·447 k.p.h. (112·7 m.p.h.), Germany, Geo. Juterbock, on Junkers W.34, 420 h.p. Bristol "Jupiter," at Dessau, May 11, 1927.

Records with 1,000 kgs. (2,205 lbs.) Useful Load

Duration.—11 hrs. 7 mins. 18 secs., U.S.A., Lieut. B. J. Connel and S. R. Pope, on P.N.-10, two 600 h.p. Packard, at San Diego, July 8, 1927.

Distance.—1,525·189 kms. (947·7 miles), U.S.A. As above.

Altitude.—5,026 m. (16,490·3 ft.), Italy, M. A. Passaleva, on Savoia-Marchetti, 500 h.p. Asso, at Vigna di Valle, March 19, 1927.

Speed, 100 kms. (62·14 miles).—196·078 k.p.h. (121·8 m.p.h.), Germany, J. Risetics, on Junkers W.34, 420 h.p. Bristol "Jupiter," at Dessau, June 1, 1927.

500 kms. (310·7 miles).—190·637 k.p.h. (115·4 m.p.h.), Italy, M. A. Passaleva, on Savoia-Marchetti, S-62, 500 h.p. Asso, at Sesto-Calende, December 30, 1926.

1,000 kms. (621·4 miles).—171·5 k.p.h. (106·5 m.p.h.), Sweden, K. G. Lindner, on Flygindustri, 320 h.p. Junkers L.V., Circuit Limhamn Kullen, August 6, 1927.

Records with 2,000 kgs. (4,410 lbs.) Useful Load

Duration.—11 hrs. 7 mins. 18 secs., U.S.A., Lieut. B. J. Connel and S. R. Pope, on P.N.-10, two 600 h.p. Packard, San Diego, July 8, 1927.

Distance.—1,525·189 kms. (947·7 miles), U.S.A. As above.

Altitude.—4,684 m. (15,368·2 ft.), France, Lieut. Paris, on C.A.M.S., two 480 h.p. Bristol "Jupiters," St. Raphael, August 18, 1927.

Speed, 1,000 kms. (621·4 miles).—166·363 k.p.h. (103·3 m.p.h.), Italy, M. A. Passaleva, on Savoia Marchetti S.55, two 500 h.p. Asso, at Sesto-Calende, December 23, 1926.

Greatest Load to ceiling of 2,000 m. (6,560 ft.)

3,000 kgs. (6,615 lbs.), Italy, M. A. Passaleva, on Savoia-Marchetti, two 500 h.p. Asso, Sesto-Calende, December 8, 1926.

AIR TRAFFIC IN ITALY DURING 1926

THE civil aviation department of the Italian Air Ministry has issued a report on Italian air traffic during 1926, giving statistics of the five air lines operating in that country. This report is excellently produced and very complete, containing several interesting charts, showing in graphic or pictorial form the resultant statistics of each air line.

The five air lines are as follows: 1, Turin-Pavia-Venice-Trieste; 2, Venice-Trieste-Zara; 3, Genoa-Rome-Naples-Palermo; 4, Brindisi-Athens-Constantinople; 5, Venice-Klagenfurt-Graz-Vienna. We have not the space to give the statistics from the report in full, but give below a summary of the traffic on each of these five routes.

1, Turin-Trieste.—Operated by the S.I.S.A. (Società Italiana Servizi Aerei) from April 1 to October 15. Out of 355 flights, nine were not completed, 25 were carried out with considerable delays—due, except for two cases of engine trouble, to weather conditions. Of the nine non-completed flights, three were due to machine defects and six to engine trouble. The total percentages of all flights are: flights completed, 90·42 per cent.; flights delayed by weather, 6·48 per cent.; flights interrupted by machine defects, 0·85 per cent.; flights interrupted or delayed by engine trouble, 2·25 per cent. During the six months' operation no accidents to passengers were reported. General results:

number of flights, 355; kilometres flown, 201,592; passengers carried, 1,382 (97·32 per cent. of available accommodation); mail, 1,084 kgs.; freight and luggage, 11,892 kgs.

2, Venice-Zara.—On October 16 the Turin-Venice service was suspended, and on the same date a special bi-daily service opened between Venice-Trieste-Zara, which was continued up to December 31. Of the 122 regular flights on the Venice-Trieste section all were completed, some with slight delay, while of the 92 flights over the Trieste section two were interrupted owing to weather conditions. No accidents to passengers, no damage to flying stock, were reported. General results:—Number of flights, 214; kilometres flown, 36,670; passengers carried, 206 (25 per cent. of available accommodation); mail, 100 kgs.; freight, 1,578 kgs.; percentage of flights completed—Venice-Trieste, 100 per cent., Trieste-Zara, 98 per cent.

3, Genoa-Palermo.—This route is operated by the "Società Anonima di Navigazione Aerea," and consists of three sections: Genoa-Ostia (Rome), Ostia-Naples and Naples-Palermo, each section being operated (in both directions) by different machines. The service was twice a week during the first month, three times a week during the second month, thence four times a week.

From April 7 to December 31, 110 flights were scheduled

for the Genoa-Ostia section and 210 for both the other sections. The actual flights were as follows: Genoa-Ostia, 88; Ostia-Naples, 204; Naples-Palermo, 192; total, 484. Only five flights out of the total were not completed, two owing to

over 9,845 kms. (64 flying hours), in which 127 passengers were carried. There were no accidents to passengers.

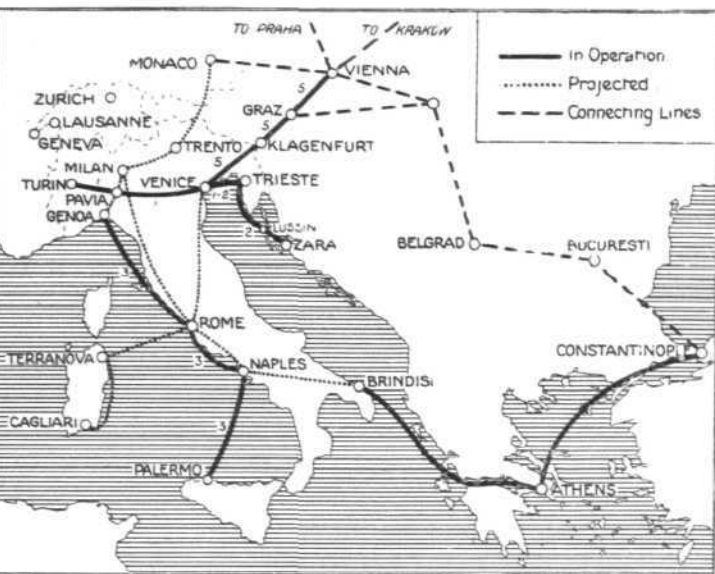
4, Brindisi-Constantinople.—This route was operated by the "Società Anonima Aero Espresso Italiana," from August 1 to December 31, with two flights per week in each direction. The total number of flights planned was 50, of which 40 actually were made. Of these nine were interrupted, giving a percentage of flights completed of 77.5 per cent.; bad weather was responsible for 5 per cent.; machine defects for 2.5 per cent.; and engine trouble for 15 per cent. There were no accidents to passengers. General results:—

Number of flights, 40; kilometres flown, 56,366; passengers carried, 57; mail, 138 kg.; freight, 5,002 kg.

5, Venice-Vienna.—This service was operated from August 18 to the end of December, with a fleet of single-engined machines, to which a three-engined Junkers was added in October. During the first month the service was three times a week; during the second month there was a daily service over the Venice-Klagenfurt section. From the third month the total number of flights should have totalled 196, but only 159 were actually carried out. Of these 70 covered the whole route, and 44 the Venice-Klagenfurt leg (the service between Klagenfurt and Vienna having been suspended for a month). Bad weather interrupted 30 flights, which were however concluded on the following days. The percentage of completed flights was 72 per cent. There were no accidents to passengers.

It may be of interest to note that this Venice-Vienna route, which lies across the Alps—hitherto considered a formidable obstacle to air traffic—was maintained throughout the winter when many other European air services had suspended their activity. The general figures for the service are:—

Kilometres flown, 523,122 (3,524 flying hours); passengers carried, 3,991 (45 per cent. of available accommodation); mail, 1,571 kg.; freight, 40,907 kg.



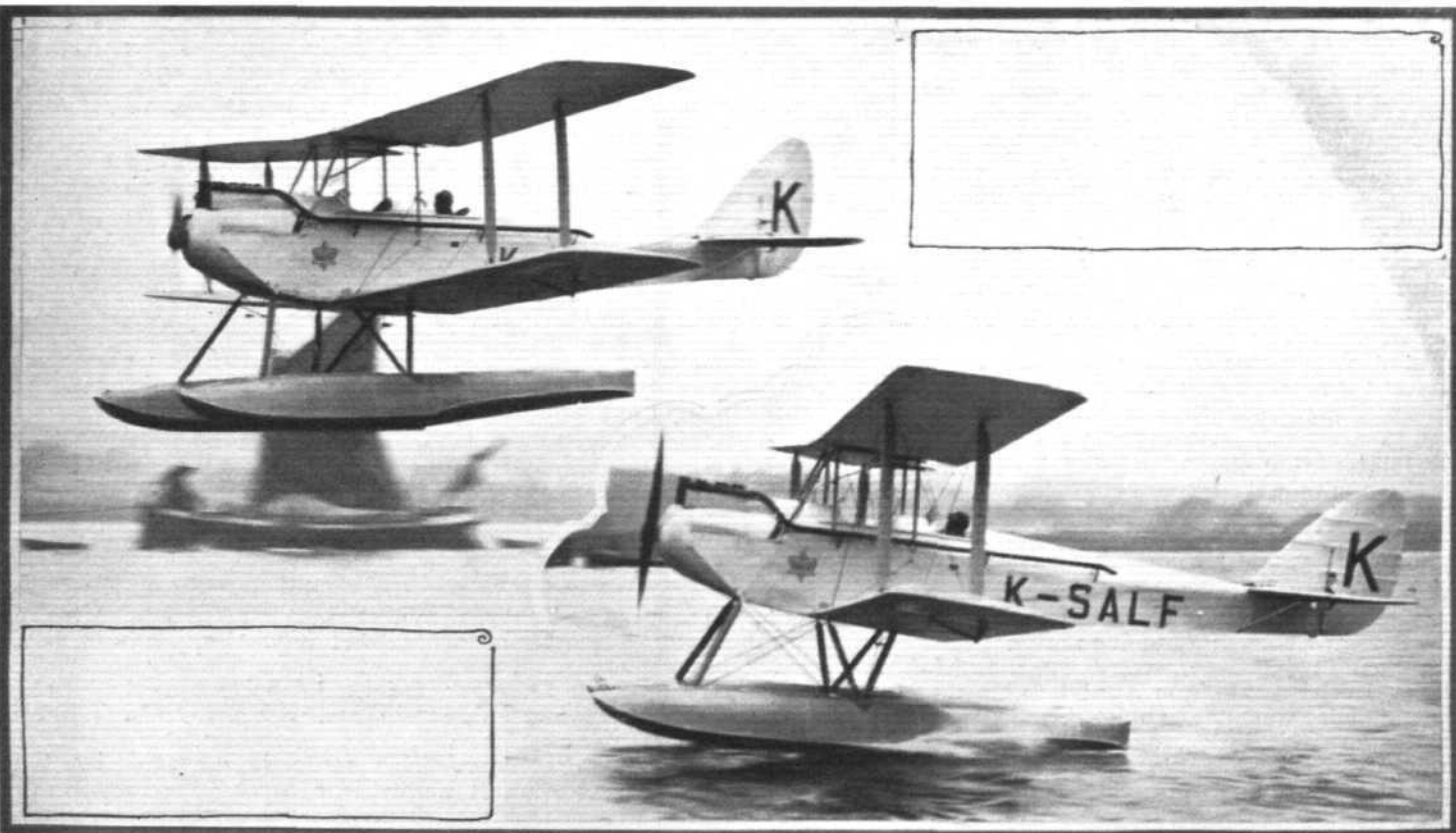
engine troubles, two to machine defects, and one to weather conditions. The figures regarding the general operation of the line are as follows:—Number of flights, 484; kilometres flown, 162,060 (1,076 flying hours); passengers carried, 1,814; mail, 496 kgs.; freight, 4,638 kgs.; luggage, 9,931 kgs. In addition to these regular flights, 24 extra ones were made

Civil Aviation in Australia

MR. BRUCE, the Australian Prime Minister, announced that the Commonwealth Government has decided to allocate an additional £200,000 towards the development of civil aviation within the Commonwealth. Amongst other developments resulting from this will be a new air line between Adelaide and Perth.

Sir Alan Cobham's Next Flight

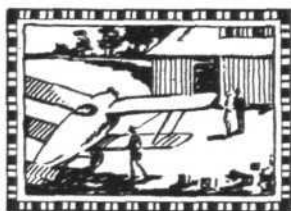
SIR ALAN COBHAM will commence his African air tour in the Short "Singapore" in a fortnight's time. He will be accompanied by Capt. H. V. Worrall, Mr. F. Green, Mr. C. E. Conway and Mr. S. R. Bonnett, the last-named being a film photographer. Sir Alan proposes flying up the Thames on the first stage of his flight.



[" FLIGHT " Photographs]

OFF TO "THE LAND OF A THOUSAND LAKES": A de Havilland "Moth" Seaplane, with "Cirrus II" engine and Short Duralumin floats, undergoing tests at Rochester, piloted by Capt. Broad. The machine has been sold to Finland.

PRIVATE



FLYING

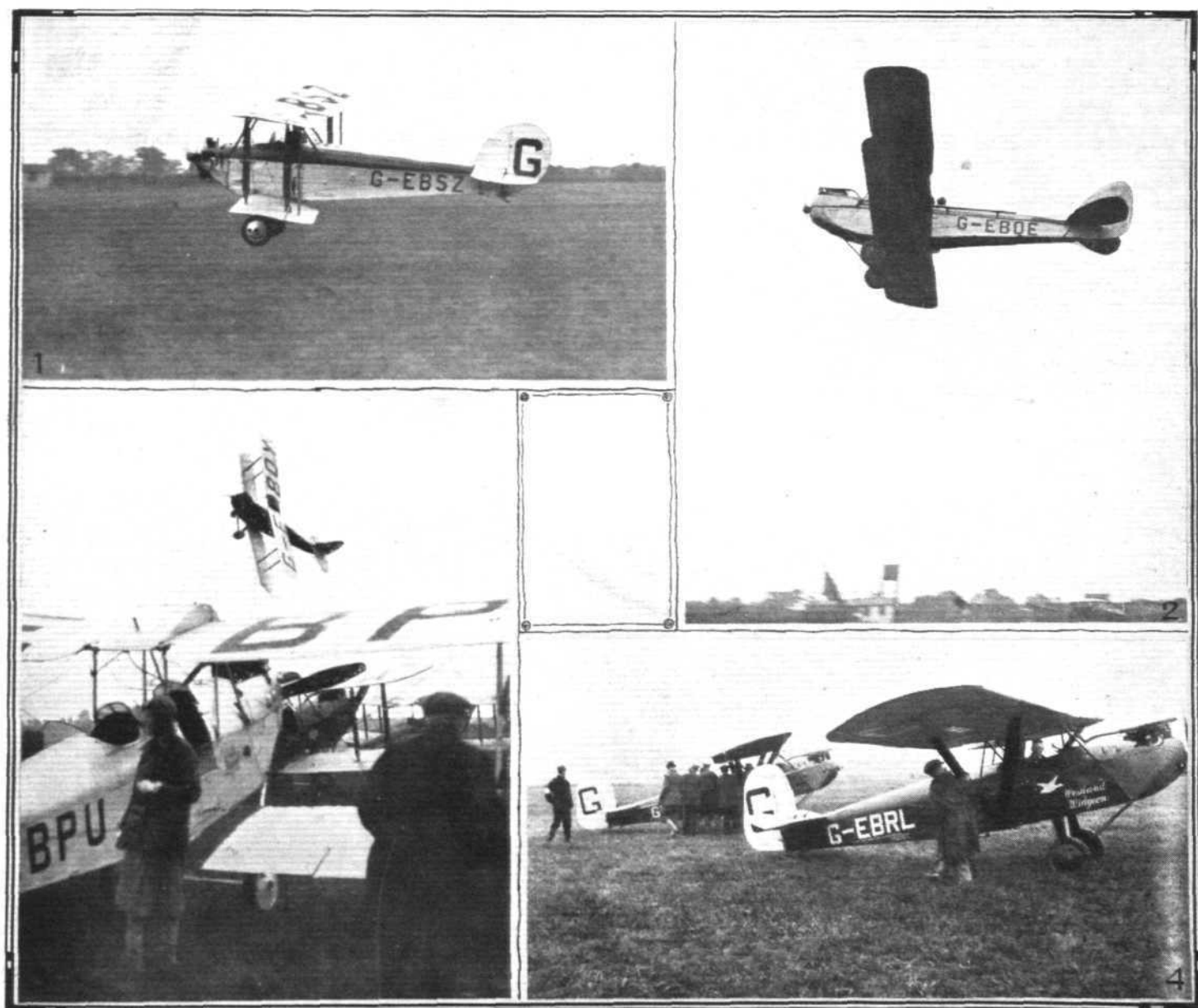
A Section of FLIGHT in the Interests of the Private Owner, Owner-Pilot, and Club Member

THE SUFFOLK AEROPLANE CLUB'S AIR DAY

On Sunday, October 30, the Suffolk Aeroplane Club held its first air meeting at the Hadleigh Aerodrome, Suffolk, with considerable success. The weather remained comparatively fair, and the attendance was quite good, although a very large section of the crowd received a free view, which was naturally a quite unintended generosity on the part of the Club. As usual, the air visitors were numerous and played a good part in the success of the meeting. The President of the Club, the Hon. Lady Bailey, flew down the previous day in her "Moth," and with Mr. Courtney Prentice, the Hon. Secretary, a visit was made to Sir Courtenay Warner,

the Lord-Lieutenant of the County, at Brettenham Park. Sir Courtenay Warner attended the meeting the next day and contributed £50 to the Club's funds, and promised another £50 if the Air Ministry subsidy was secured. The other officials of the Club present were the Chairman, Dr. J. Sleigh, Mr. H. Billinton, Mr. N. Creasy, Mrs. Courtney Prentice, and Miss D. Creasy. The last named is the youngest pilot member of the Club.

The other air visitors were Capt. G. de Havilland and Mrs. G. de Havilland; Mr. D. Kittel and Mrs. Wood-Humphreys as passenger; Mr. H. D. Richardson, Mr. B. F.



["FLIGHT" Photographs]

SUFFOLK CLUB'S AIR DAY :—(1) The Club's own Blackburn "Bluebird" is seen taking off. (2) Capt. "Jerry" Shaw does his share of the joy-riding work in the Shell "Arom." (3) Squad-Ldr Noakes giving his usual clever exhibition of crazy flying on a "Moth." (4) The two Westland "Widgeons" which put in some excellent work at joy-riding.



[“FLIGHT” Photograph]

Lady Bailey in conversation with the Mayor of Ipswich (Mr. C. E. Tempest), at the Suffolk Club's meeting, with Sir Courtenay Warner smiling contentedly at the side. Sir Courtenay Warner is a keen supporter of the Club.



[“FLIGHT” Photograph]

The President of the Suffolk Club, the Hon. Lady Bailey, is here seen in an active position on her own “Moth,” in which she took a large share in the joy-riding work that was carried out continuously at the meeting at Hadleigh.

Russell, Mr. I. McClure, Sqd.-Ldr. Noakes, Mr. Mill and Mrs. Mill, Mr. Cooper, Major Beaumont, and Mr. T. H. Worth—all on “Moths.” Capt. T. N. Stack flew down in the A.D.C. “Cirrus” Service “Moth,” with Mrs. Stack as passenger. Capt. “Jerry” Shaw came on the Shell “Arom” (Moth). The Norfolk Aero Club sent over their Avro in the hands of Capt. Lines and their “Moth” in the hands of Mr. Ramsey. There were twelve “Moths” there altogether. Sqd.-Ldr. Rae flew over on his Boulton and Paul P9; Mr. Charles Blackburn on a “Bluebird”; Capt. L. G. Paget, the test pilot of the Westland Aircraft Company, on a Westland “Widgeon,” and another pilot was also on a Westland “Widgeon.” The Suffolk Club's own Blackburn

“Bluebird” was flown by their instructor, Mr. Lowdell, and Mr. Courtney Prentice. Mr. N. H. Jones brought his A.N.E.C.II, and Mr. T. Richardson his Avro. Other distinguished visitors were Lady Leucha Warner, the Mayor of Ipswich (Mr. C. E. Tempest) and the Mayor-elect (Mr. W. Rowley Elliston.).

The meeting started at 10.30 a.m., and the dominating item of the whole programme was the constant joy-riding. Out of over 1,000 applicants for 5s. tickets some 400 were given flips, it being impossible to accommodate the wishes of everybody. All the machines at the meeting were devoted to this work, and the visiting pilots, who have just been mentioned, were untiring in their gratuitous efforts on



[“FLIGHT” Photographs]

AT HADLEIGH: On the left is the A.D.C. “Cirrus” Service “Moth” which was flown down by Capt. Stack with Mrs. Stack as passenger. On the right Capt. Stack is on the same machine giving his interesting exhibition of stunting.



At Hadleigh on Sunday: Here are Mr. and Mrs. Mill alongside the "Moth" in which they flew down and took part in the meeting at Hadleigh. Mr. Mill is the New Zealand distributor of "Moths" for the De Havilland Company, and the machine he is standing by will be taken by him to New Zealand.

["FLIGHT" Photograph]

behalf of the Suffolk Club. One of the first of Lady Bailey's numerous passengers was Lord Huntingfield, the member for the Eye Division, who is keenly interested in the flying movement, and has promised to press the Club's claim for a subsidy. The items that were sandwiched in were exhibitions of stunting. Capt. Paget stunted on a "Widgeon," Capt. Stack on a "Moth," Capt. Lines on a "Moth," and Sqd.-Ldr. Noakes gave his usual thrilling exhibition of crazy flying, also on a "Moth."

The Suffolk Club can be congratulated on their initial efforts. We are pleased to know that they have more than doubled their membership as a result of the meeting. If there was one minor hitch it was the transport difficulty. The narrow road adjoining the aerodrome was blocked with cars, motor-

cycles and bicycles, and the departure after the meeting was a terribly tedious and prolonged task. Perhaps another time the Club, with the aid of an adequate police force, will be able to overcome this difficulty. Every little item cannot be foreseen at the first meeting, and, after all, the congestion only proved the keen local interest in flying, a sign that should augur well for the future of the Club.

The Hadleigh Aerodrome that they are using, having taken it on a seven years' lease, is one of the old war aerodromes, and like so many of these, it has suffered neglect and decay, the buildings and hangars having been razed to the ground. It seems a pity that the ultimate use of these old aerodromes for civil use could not have been foreseen before the destructive policy was evoked.



["FLIGHT" Photographs]

WITH THE SUFFOLK CLUB AT HADLEIGH: In the top picture are seen a few of the cars belonging to officials and visitors, and also the considerable crowd of "dead-heads" who watched the meeting from the road. Below is a corner of the joy-riding public.

LIGHT 'PLANE CLUBS

London Aeroplane Club, Stag Lane, Edgware. Sec., H. E. Perrin, 3, Clifford Street, London, W.1.
Bristol and Wessex Aeroplane Club, Yate, Gloucester. Secretary, Lieut.-Col. C. Fleming, Filton Aerodrome, Patchway.
Hampshire Aero Club, Hamble, Southampton. Secretary, Maj. Ross White, Hamble, Southampton.
Lancashire Aero Club, Woodford, Lanes. Secretary, C. J. Wood, Oakfield, Dukinfield, near Manchester.
Midland Aero Club, Castle Bromwich, Birmingham. Secretary, Maj. Gilbert Dennison, 22, Villa Road, Handsworth, Birmingham.

Newcastle-upon-Tyne Aero Club, Cramlington, Northumberland. Secretary, A. H. Bell, c/o The Club.
Norfolk and Norwich Aero. Club, Mousehold, Norwich. Secretary, H. O. Bennett, 5, Opie Street, Norwich.
The Scottish Aero Club Movement, 101, St. Vincent Street, Glasgow. Secretary, Harry W. Smith.
Suffolk Aeroplane Club, Ipswich. Secretary, Courtney N. Prentice, "Hazel Dell," Stowmarket, Suffolk.
Yorkshire Aeroplane Club, Sherburn-in-Elmet, Yorks. Secretary, D. M. N. Coles, The Aerodrome, Sherburn-in-Elmet.

LONDON AEROPLANE CLUB

REPORT for the week ending October 30.—Flying time, 19 hrs. 45 mins.; dual, 12 hrs. 10 mins.; solo, 6 hrs. 30 mins.; passenger flights, 1 hr. 5 mins.
 Dual instruction.—With Capt. F. G. M. Sparks: A. J. Richardson, R. G. D. Edkins, A. Fowler, H. B. Michelmores, J. Bickley, G. Clair, Miss Fletcher, S. Burt, C. G. Black, Dr. Cook, H. Solomon, F. C. Fisher. With Capt. S. L. F. St. Barbe: Miss Wilson, M. P. Susman, R. Hayes, P. W. Hoare, F. C. Fisher, A. L. Petty, E. A. Lingard, Mrs. Cook, L. Rowson.
 Solo Flying.—N. Jones, W. Hay, J. H. Saffery, E. E. Stammers, D. P. H. Esler, B. B. Tucker, R. Sanders Clark, Sqdn.-Leader Wright, G. C. Bonner, L. C. Davey, A. R. Ogston, K. V. Wright, H. B. Michelmores, I. C. Horton, H. Solomon, L. J. C. Mitchell.
 Passenger Flights.—With R. W. Ballantyne, Miss Fowkes. With G. H. Craig, A. Fowler. With L. J. C. Mitchell: R. E. Gifford.
 The weather during the past week has prevented any flying on four days. The Club has taken over D.H. "Moth" G-EBNN to replace G-EBKT. This is one of the Club's aircraft allocated for solo flying. A further D.H. "Moth," also for solo flying, will be taken over shortly to replace G-EBLI.
 Suffolk Aeroplane Club Meeting.—Owing to the rush of Members over the week-end, it was not possible to spare a Club "Moth" for the meeting of the Suffolk Aeroplane Club at Hadleigh on Sunday.
 The Club, however, was represented by Major K. M. Beaumont, N. H. Jones, R. P. Cooper, Lady Bailey, I. H. McClure, J. D. Kittel, all on privately-owned aircraft.

BRISTOL & WESSEX AEROPLANE CLUB

FLYING report for week ending October 29.—Flying time, 12 hrs.; instruction, 6 hrs. 55 mins.; soloists, 2 hrs. 25 mins.; passengers, 2 hrs. 40 mins.
 Instruction with Mr. E. B. W. Bartlett: Mr. D. H. Amory, Hon. H. C. H. Bathurst, Messrs. A. E. Arnold, M. L. Alexander, T. H. Clark, A. H. Downes-Shaw, C. H. Brewer, R. A. Hall, S. K. Jopp, J. H. Roberts, A. E. Stephens, C. E. Pitman.
 Soloists under instruction.—Hon. H. C. H. Bathurst, Messrs. A. H. Downes-Shaw, R. A. Hall, J. E. Tratman, C. E. Pitman.
 Passengers.—With Mr. Bartlett, Col. Flemming. With Mr. Hopper, Mr. Leaver.
 Mr. Bartlett, accompanied by Col. Flemming, went up to London on Thursday to bring down the club's second dual instruction machine, another "Moth." Owing to bad weather, they could not get off on Friday, but arrived on Saturday morning. The necessity of a second machine was clearly demonstrated on Saturday afternoon, both the "Moths" being in the air continuously, from 2 p.m. till dark.

LANCASHIRE AERO CLUB

REPORT for week ending October 29.—Flying time, 13 hrs. 40 mins.; instruction, 5 hrs. 55 mins.; solo flights, 5 hrs. 25 mins.; passenger flights, 1 hr. 30 mins.; test, 50 mins.
 Instruction.—With Mr. Brown: Messrs. Agar, Hall, Heath, Davidson, Brooking, Browning, Cort, Allott, Michelson, Cohen.

With Mr. Cantrill: Messrs. Forshaw, Ruddy, and Meads.
 Soloists (under instruction): Messrs. Rowley, Harber, and Meads.
 Pilots.—Messrs. Agar, Nelson, Forshaw, Goodfellow, Twemlow, Costa, Leeming, Lacayo, Gattrell.
 Passengers.—With Mr. Goodfellow: Mr. and Mrs. Lightfoot, Miss Parker, and Mr. Parker. With Mr. Scholes: Mr. Gorton. With Mr. Cantrill: Miss Bower. With Mr. Williams: Mr. Hartley. With Mr. Twemlow: Mr. Allott.
 The wind has varied from 2 to 92 m.p.h., but unfortunately during the calm periods it has been mostly wet.
 Mr. Brown was away over the week-end in connection with his licence, and in his absence, Mr. Cantrill was in charge. Sunday was distinctly stormy, and during the worst periods solo flying was washed out. One enthusiastic, but inexperienced soloist protested, to whom said our Mr. Cantrill:—"Righto, hop in and fly the darned kite, while I sit in front!" It was observed that the enthusiastic soloist was very subdued after coming down, and there were no further grones.

NEWCASTLE-UPON-TYNE AERO CLUB

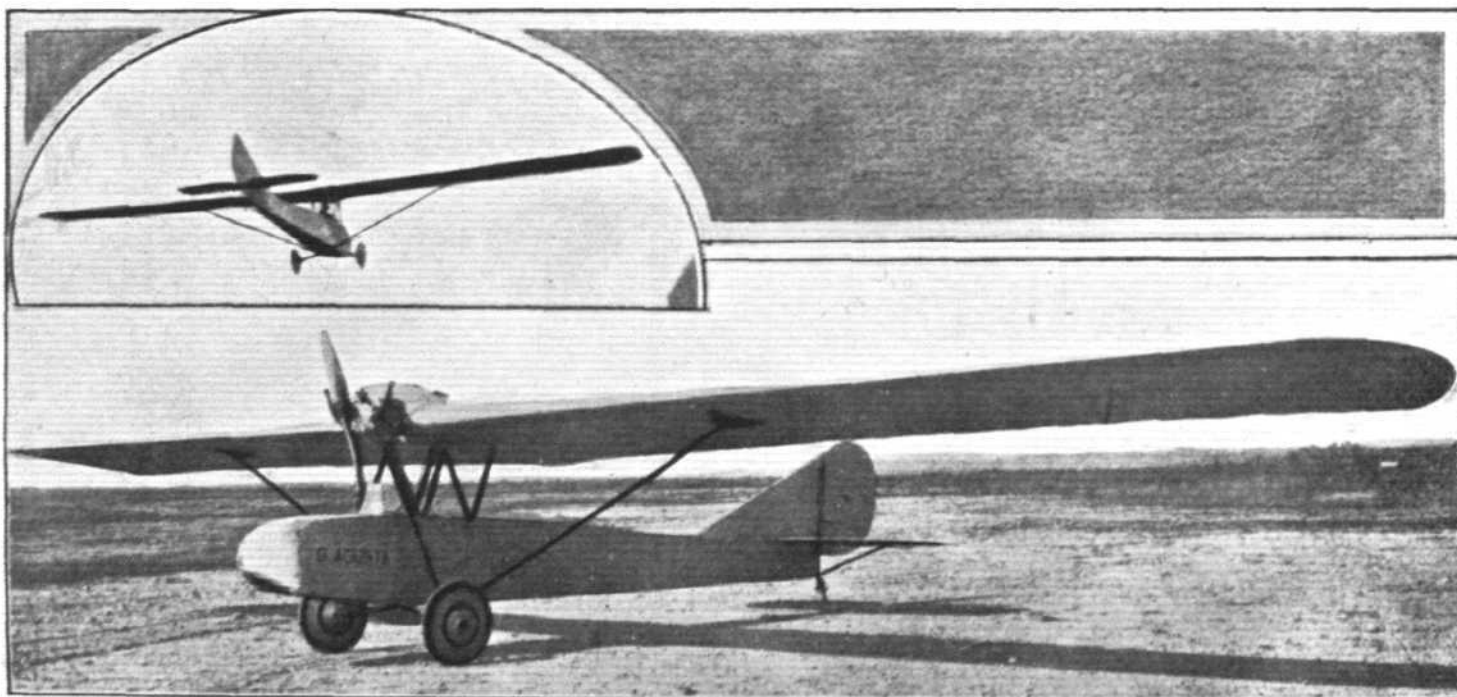
FLYING report for week ending October 30.—Total flying, 22 hrs. 15 mins. Instruction, 8 hrs. 50 mins. Soloists, 15 mins. "A" Pilots, 12 hrs. Passengers, 50 mins. Tests, 20 mins.
 Instruction (with Mr. Parkinson): Miss Rambaut, Messrs. Alderson, Horn, R. J. Dickinson, Turnbull, Glenney, Griffiths, De Pledge, L. W. Heaton, V. Heaton.
 Solo: Mr. C. E. Shaw.
 "A" Pilots: Miss Leathart, Mrs. Heslop, Messrs. Turnbull, H. Ellis, W. B. Ellis, D. Wilson, R. N. Thompson, C. Thompson, A. Bell.
 Passengers (with Mr. C. Thompson): Mrs. Heslop, Mr. Luckman; (with Mr. Baxter Ellis): Mr. Easey, Mrs. Baxter Ellis; (with Mr. A. Bell): Mr. Fairless, Mr. Murray; (with Mr. Parkinson): Mr. Murrell, on photography, 50 mins.
 Mr. Baxter Ellis, with Mrs. Ellis as passenger, flew L.X. from Stag Lane to Cramlington on Friday and Saturday, staying on Friday night at Sherburn on account of lateness and bad visibility.
 The weather was very bad during the week, but with L. X. again on service 10½ hrs. flying was put in on Sunday, when the weather slightly improved.

NORFOLK & NORWICH AERO CLUB

REPORT for week ending October 30.—Flying time, 4 hrs. 30 mins.
 Soloists: Messrs. Moore, Ramsay, Gough and Cubitt.
 Passengers: Mrs. R. Moore, Mr. A. Arnold.
 Inclement weather stopped all instruction. Capt. Lines painted the Avro-assisted by Misses Ramsay and Gough; other people gave good advice.

YORKSHIRE AEROPLANE CLUB

REPORT for week ending October 29.—Flying time: 10 hrs. 10 mins. Instruction, 5 hrs. 20 mins. Soloists, 3 hrs. 50 mins. Passengers, 1 hr.
 Instruction (with Capt. Beck): Messrs. Weaver, Hepworth, Yeomans, Humphries, Dane, Brown, Clayton, H. Crowther, Miller, Batcock; (with Mr. Stockbridge): Mr. Ostler.



AN ITALIAN LIGHT 'PLANE: Two views of the Giovanni "Agusta" parasol monoplane, fitted with a 15-h.p. Anzani engine. It has a span of 46 ft. and a length of 23 ft. The wing area is 226 sq. ft., the weight empty is 441 lbs., and the weight laden is 661.5 lbs. It is said to have a speed range of 22-62 m.p.h.

Solo Instruction: Messrs. Lister, Lax.

"A" Pilots: Messrs. Thomson, Wilson, Wood. "B" Pilots: Mr. Carter. Passengers with Captain Beck: Mr. Ellis. With Mr. Thomson: Miss Hadwick, Mr. Claxton.

Owing to gales, fog, wind, and rain, the flying this week has been confined to two days, Sunday and Saturday. These two days our "Bluebirds" were kept busy until darkness intervened and prevented further aerial activity. Flying Officer Atcherley again favoured us with a visit this week-end, but owing to the adverse Air Ministry weather report, left quite early on Sunday morning.

Mr. and Mrs. Baxter Ellis called in on their way back from London with LX looking very "posh."

At the conclusion of the financial year, and only after very serious consideration, the Directors of the club have reluctantly been compelled to revise the Annual Subscription, etc. These will be as follows, and will operate on and from November 1, 1927, except in the case of present members.

Flying Members:—Subscription £5 5s. per annum. Entrance Fee, £5 5s. Associate Members:—Subscription, £2 2s. per annum. Entrance Fee, £2 2s.



Great Flying Boat Cruise

THE R.A.F. "Southampton" flying boats reached the Phaleron air station at Athens from Brindisi on October 28 shortly before noon. The following day they reached Abukir, where they will remain until November 3.

Batavia-Amsterdam in Nine Days

LIEUT. KOPPEN has completed the homeward flight from Batavia to Amsterdam in the record time of nine days. He reached home on October 28 and received a great welcome. Briefly his progress was as follows:—He left Batavia on October 17, arrived at Singapore (625 miles), October 17; Bangkok (1,000 miles), October 18; Calcutta (1,160 miles), October 21; Allahabad (490 miles), October 22; Karachi (950 miles), October 23; Bander Abbas (745 miles), October 24; Baghdad (995 miles), October 25; Aleppo (500 miles), October 26; Belgrade (1,375 miles), October 27; Amsterdam (1,015 miles), October 28. Lieut. Koppen, it will be remembered, set out from Amsterdam on October 1, and took ten days for the flight to Batavia. He has thus accomplished the double journey—from start to finish—in 28 days, or well within the month! The object of the venture was to test the possibility of an air mail route to the Dutch East Indies, and mail to the value of £3,000 was, in fact, carried on both the outward and the homeward trips. The machine was a Fokker F. VII-3m. monoplane, fitted with three Armstrong-Siddeley "Lynx" engines, which combination behaved splendidly throughout the whole flight, maintaining an average speed of a little over 100 m.p.h. The three aviators concerned, Lieut. Koppen, second pilot Fryns, and mechanic Elleman, have received a knighthood in the Order of Orange-Nassau.

Slotted Wings for Air Liners?

MAJ. H. G. BRACKLEY, Air Superintendent of Imperial Airways, Ltd., has been testing a machine fitted with the Handley Page automatic wing-slots with a view to the adoption of this safety device on the air liners.

Under-Secretary for Air at Ottawa

SIR PHILIP SASSOON, now on a visit to America, flew from Buffalo to Ottawa on October 30 in a U.S. Army machine. He was met by the Canadian Minister of Defence and entertained at a luncheon by the Governor-General, Lord Willingdon. He left again the same day for New York.

Latest U.S. Aircraft Carrier

AMERICA has just commissioned a new aircraft carrier named the "Saratoga," which will be followed by a sister-ship, the "Lexington." The cost of the former is £9,000,000 and it carries 31 bombing machines. She is also equipped for fighting, scouting, torpedo and spotting machines.

Famous Test Pilot Returns

CAPT. F. T. COURNEY arrived at Calshot air base on October 31 after his sojourn at Corunna, where he was forced to descend when attempting to reach the Azores on the Dornier "Whale" flying boat on the preliminary stage across the Atlantic.

Herr K  nnecke Restarts

THIS German pilot, who flew non-stop in a Caspar biplane from Cologne to Angora on September 20-21, has restarted his Far East flight, and arrived at Karachi from Bander Abbas on October 31. He had been delayed at Bander Abbas since October 8.

French Attempts at Light 'Plane Records

ON October 20 the French pilot Finat, flying a Caudron 109 (40 h.p. Salmson), accomplished a flight, over a closed circuit, of 1,146 kms. (712 miles) in 11 hrs. 15 mins. On October 22 he set out from Le Bourget in the same machine,

accompanied by Mme. Finat, and flew to Berlin, a distance of 862 kms. (535.6 miles), in 9 hrs. 36 mins. Another French pilot, M. Knipping, also on a Caudron monoplane with 40 h.p. Salmson engine, flew on October 31 from Le Bourget to K  nigsberg. He had covered a distance of about 900 miles via Brussels and Berlin, but was forced to land at K  nigsberg owing to bad weather. It had been his intention of flying for 20 hours, and for this purpose he had 66 galls. of petrol on board.

Col. Lindbergh Completes U.S. Tour

THIS famous pilot has just completed his American air tour ranging over three months, during which time he has visited every State and 82 towns. He flew his equally famous Ryan monoplane, fitted with Wright "Whirlwind" engine, which has now done over 355 hours and does not yet require an overhaul. Col. Charles Lindbergh, was enthusiastically received everywhere. On his return to Long Island he was welcomed by Lieut-Col. Foulois, commandante of the Mitchell Field, and Mr. Harry Guggenheim. This tour has been remarkable for the pilot's punctuality at almost every stopping place. Col. Lindbergh has decided to be free of the many commercial offers made to him so that he might engage in experimental flying accordingly as he feels disposed. He will become a trustee of the Guggenheim Fund and give his services to that organisation in an advisory capacity as well.

The "Red Rose" in the Desert

ON the latest stage of their flight to Australia, Capt. Lancaster and Mrs. Keith Miller were compelled to descend at Rutba Desert post, midway between Baghdad and the Mediterranean, owing to bad weather. The R.A.F. had provided a Vickers "Vernon" machine to escort the "Red Rose," which is an Avro "Avian."

New R.A.F. African Flight

THREE Fairey R.A.F. machines left Heliopolis, Cairo, on October 27, on a Service flight to Nigeria, via Khartoum, El Fasher, Abesher, and Fort Lamy. They were under the command of Wing-Commander F. W. Stent. They arrived at Wadi Halfa from Abukir the same afternoon. On October 28, Atbara was reached at 10.30 a.m., and, departing half-an-hour later, the three machines landed at Khartoum. On October 29 they made a forced landing at Iura, 50 miles from El Fasher, after leaving El Obeid. This was through lack of fuel.

British Far-East Flight

EARLY next week it is the intention of Capt. R. H. McIntosh to make his delayed attempt on a long distance flight to India and even farther if it is possible. Using the Fokker monoplane fitted with a Bristol "Jupiter" of 500 h.p., he will be accompanied by Mr. Bert Hinkler, the famous Avro test pilot.

Fine Italian Flight

AN Italian "Savoia" machine, fitted with a 500 h.p. Isotta-Fraschini engine, reached Stockholm from Finland on October 27. In the course of a long tour from Italy, commenced on October 10, it had covered 3,800 miles. It flew via Belgrade, Konstanz, Saratoff, Samara, Moscow, Lenin-grad, and Helsingfors. The next stage will be to Amsterdam and then Rome.

The American Girl in Paris

MISS RUTH ELDER and her pilot, Capt. G. Haldeman, who failed in an attempt to cross the Atlantic by air and were rescued in mid-ocean, arrived at Paris by air from Madrid. They had been loaned a Potez 25A for this purpose by Commandante M. Weiss and reached Paris two hours earlier than they were expected.

THE HIGH-SPEED COMPRESSION-IGNITION ENGINE

UNDER the somewhat ambiguous title "High-Speed Compression-Ignition Engine Research," Mr. H. B. Taylor, A.F.R.Ae.S., is reading a paper to-night, November 3, before a joint meeting of "The Royal Aeronautical Society with which is incorporated the Institution of Aeronautical Engineers" and the Institution of Automobile Engineers. The title of the former body is so cumbersome that in future we propose to refer to it by the initials, as the R.Ae.S., I.Ae.E., and tonight's meeting, still using initials, is thus a joint affair of the R.Ae.S., I.Ae.E., I.Ae.E. (After all, we have not saved very much space!)

From the title of the paper it is not quite clear whether the research on compression-ignition engines has been carried out at high speed by the R.A.E. (if so it must be the only research the R.A.E. has ever carried out at high speed) or whether the high speed refers to the speed of revolution of the compression-ignition engine which is being "researched." As the paper shows that the highest permissible speed of the unit used is 1,200 r.p.m., the term "high-speed" does not appear over apt as applied to the engine. However, doubtless, the discussion following the reading of the paper will clear up this problem.

In his paper Mr. Taylor outlines briefly the main advantages of the compression-ignition engine as follows: Reduction in specific fuel consumption; utilisation of cheap fuels of high flash-point; reduction of fire risk; elimination of electric-ignition system and elaborate precautions against interference with wireless reception; and the possibility of two-stroke operation. Against these advantages he places the following disadvantages: Increase of structural weight necessitated by the higher working pressures in the cylinder; lower power output per unit volume of cylinder capacity; need for some form of pre-heating of the air to enable the engine to function at high altitudes.

The main problem to be solved in the development of the compression-ignition engine is that of the fuel-injection system, as the remainder of the engine may be of merely orthodox design. In his paper Mr. Taylor briefly outlines various injection systems, and describes in considerable detail the single-cylinder unit used in carrying out the research at the R.A.E., Farnborough, known as the 20 T. The various types of nozzle experimented with are also fully dealt with, the most effective type being a five-hole nozzle, with holes of 0.0145 in. diameter and 0.02 in. long, drilled at a cone angle of 120°.

Tests made indicate that with an excess-air coefficient of 1.3, i.e., with air present in the cylinder 30 per cent. or so in excess of theoretical requirements for complete combustion, the mean brake effective pressure was 121 lbs. per sq. in. and the fuel consumption 0.4 lb. per b.h.p./hour at 1,000 r.p.m. Comparison is made with a petrol engine (the same unit in fact) running at the same speed on petrol, which developed a B.M.E.P. of 134 lbs. per sq. in. and had a fuel consumption of 0.49 lb. per b.h.p./hour. The lecturer points out that whereas the power output has been reduced by less than 10 per cent. when running on oil fuel, the consumption is down by 18 per cent. He proceeds to deduce from this that the increase in engine weight will be compensated by the reduc-

tion in fuel weight if the flight be of a certain minimum duration.

A further advantage over the petrol engine is pointed out by Mr. Taylor. As the torque is reduced, so is the specific fuel consumption, whereas the reverse is usually the case with the petrol engine. The maximum recorded brake thermal efficiency was 38 per cent., obtained at 1,000 r.p.m., the B.M.E.P. being 78 lb. per sq. in. and the fuel consumption 0.358 lb. per b.h.p./hour. The best indicated thermal efficiency was 46.7 per cent. at 1,000 r.p.m., the indicated mean effective pressure being 74.2 lbs./sq. in., and the fuel consumption 0.297 lb./b.h.p./hour.

Weight

The subject of weight is one of the greatest importance in the compression-ignition engine, and the lecturer points out that the chief components requiring additional stiffness will be the crankshaft, crankcase and connecting rods; slightly heavier pistons may, he thinks, be required, owing to the necessity for additional strength in the crown, and the cylinder attachments will probably require strengthening. The weight of the injection system, he considers, may be offset by the carburettors and magnetos of the petrol engine. Taking these factors into consideration, the lecturer estimates that the compression-ignition engine will weigh from 1 to 2 pounds per brake horse-power more than the corresponding size and type of petrol engine, the lower figure applying to the air-cooled radial engine and the higher figure to the water-cooled engine with the cylinders in line.

In the paper a graph illustrates the saving in total weight obtained with a compression-ignition engine weighing 1 lb. per brake horse-power more than a petrol engine, but having a lower fuel consumption. Taking a specific case of an engine consuming 0.10 lb. per brake horse-power hour less, but weighing 1 lb. per brake horse-power more, it is shown that no saving in weight is obtained under ten hours' flight, but that a progressive saving is obtained as the duration of the flight is increased. The lecturer volunteers the opinion that actually a saving of 0.25 lb. per brake horse-power hour is not outside the bounds of possibility.

The Two-stroke

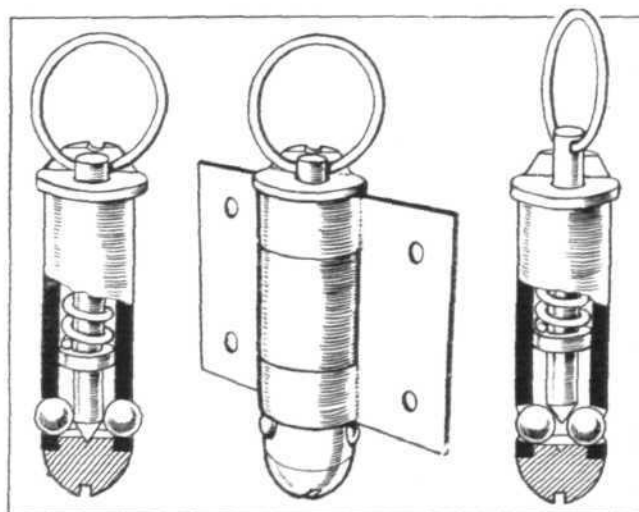
On the subject of the two-stroke engine, Mr. Taylor states: "One of the main drawbacks to the use of a two-stroke aviation engine running on petrol has been the loss of mixture which occurs through the exhaust port, which loss can only be overcome by an elaborate system of porting, or valve arrangement, or the injection of fuel during the compression stroke. The difficulties met with, however, have been so great that no successful two-stroke aviation engine has yet been developed, and in those types which have shown any promise the simplicity of the normally ported two-stroke engine has disappeared. The compression-ignition engine is concerned with the compression of air alone, and the simple ported two-stroke construction does not lead, in this case, to a direct loss of fuel through the exhaust ports. This class of engine therefore lends itself more readily to two-stroke working than does the petrol engine, and when successfully developed may show very favourable weight/power ratios."

A NEAT QUICK RELEASE DEVICE

THE requirements of any quick-release device are that it shall be positive in action, light, easily operated, and at the same time be so designed that it cannot possibly release accidentally the parts which it is designed to hold together. All these requirements appear to be fulfilled by the quick-release device invented and patented by Mr. G. W. Rice, of Hayes, Middlesex, the details of which are illustrated herewith.

The device, it will be seen, consists of a hollow cylindrical bolt inside which works a spring-loaded plunger. The plunger is parallel, and is turned to a conical point at its lower end. The top of the hollow bolt has a collar machined on it, as well as a shoulder with a small notch in it. The plunger passes through this shouldered head, and its upper end is provided with a ring. The lower end of the bolt is closed by a screwed-in cap, and just above this cap three holes are drilled to accommodate three steel balls, the holes being of slightly smaller diameter than the balls so as to prevent the latter from falling out.

The action of the device will be obvious from the sketches. When a pull is applied to the ring at the top of the plunger,



this is withdrawn against the action of the spring. As soon as the pointed end of the plunger passes the balls, these are free to move inwards, and the cylindrical bolt can slide out of the parts held together. In the sketches the two parts held together by the bolt are two halves of a hinge. Unless there is a very considerable bearing pressure on these two parts, the pull on the ring accomplishes the double purpose of releasing the balls and pulling out the cylindrical bolt.

For inserting the device, the plunger is pulled and given a twist, until one side of the ring rests in the notch

of the shoulder. In this position the plunger is locked, the three balls roll into the cylinder, and the bolt can be inserted. The plunger is then given a turn, when its spring forces it down, the conical point forcing the balls out into their holes, and the device is locked, the parallel plunger preventing the balls from moving inwards.

One can imagine a variety of uses for such a device on aircraft, and it will be obvious that it can be made in almost any size, according to the purpose for which it is intended. We shall be pleased to put any firm interested in communication with the inventor.

THE ROYAL AIR FORCE

London Gazette, October 25, 1927

General Duties Branch

Pilot Officer E. M. Thompson is promoted to rank of Flying Officer (March 12) (substituted for *Gazette* Sept. 13); E. E. Blackwell, Lt., R.N., Flying Officer, R.A.F., relinquishes his temp. commn. on return to Naval duty (June 22); Flying Officer R. H. Rose is transferred to Reserve, Class A. (Sept. 20) (substituted for *Gazette* Sept. 20); Pilot Officer on probation C. Pawley resigns his short service commn. (Oct. 20); the short service commn. of Pilot Officer on probation H. N. C. Williams is terminated on cessation of duty (Oct. 15).

Stores Branch

The follg. are granted permanent commns. as Pilot Officers on probation with effect from, and with seniority of, Oct. 15:—C. J. Cousins, B. Allen, C. Thripp, H. W. Penney (Capt., 17th Lond. Regt. T.A.), C. L. Thompson, E. F. Smith, A. Connock, M. M. McMullan, H. J. Butler, H. A. Wrigley (Sec. Lt., Northumberland Fusiliers, T.A.), C. M. P. Hartley, O. D. Allerton, T. A. Head, M. E. O'B. Atkinson, D. G. McDiarmid.

Medical Branch

The follg. Flying Officers are promoted to rank of Flight Lt. (Oct. 28):—G. M. Anderson, M.B., B. L. Edwards, M.B.

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Wing Commander J. Sowrey, A.F.C., to H.Q., Middle East, for Tech. Staff Duties, 14.10.27.

Squadron Leaders: J. Everidge, M.C., to No. 4 Flying Training Sch., Egypt, 27.9.27. J. M. Robb, D.S.C., D.F.C., to Central Flying Sch., Wittering, 19.9.27. E. G. Hopercraft, D.S.C., to No. 14 Sqdn., Palestine, 26.9.27. F. G. D. Hards, D.S.C., D.F.C., to R.A.F. Staff College, Andover, 19.9.27. C. G. Burge, O.B.E., to R.A.F. Depot, Uxbridge, 3.10.27.

Squadron Leader R. L. Stevenson, M.B.E., to No. 26 Sqdn., Catterick, 11.10.27.

Flight Lieutenants: V. Buxton, O.B.E., to No. 47 Sqdn., Middle East, 21.7.27. V. R. Gibbs, D.S.C., to No. 11 Sqdn., Netheravon, 7.10.27. G. E. Gibbs, M.C., to Air Ministry, Department of the Chief of the Air Staff, 3.10.27. G. S. N. Johnston to Air Ministry, Directorate of Operations and Intelligence, 1.11.27. E. F. Waring, D.F.C., to H.Q. Coastal Area, 1.11.27.

Flight Lieutenants: R. Menzies, to No. 26 Sqdn., Catterick, 11.10.27. N. P. Dixon, A.F.C., to No. 216 Sqdn., Middle East, 12.10.27. E. J. McLoughlin, to No. 111 Sqdn., Duxford, 3.11.27. R. W. Hill, to Schl. of Photography, Farnborough, 14.11.27.

Flying Officers: G. H. C. Ingle to Armament and Gunnery Sch., Eastchurch, 19.10.27. E. B. Forster to No. 22 Sqdn., Martlesham Heath, 29.10.27. D. L. G. Bett to H.Q., Middle East, 3.10.27. L. L. King to R.A.F. Base, Calshot, on appointment to a Short Service Commn., 17.10.27. J. S. Phillips to H.Q., Middle East, 14.10.27. C. Heard-White to Armoured Car Wing, Iraq, 30.9.27.

Flying Officers: J. F. F. Paim, to No. 16 Sqdn., Old Sarum, 17.9.27. A. C. H. Sharp and N. C. Pleasance, to No. 26 Squadron, Catterick, 11.10.27. S. J. Gilbert, to No. 4 Sqdn., Farnborough, 30.8.27. F. Simpson, to Aircraft Depot, India, 30.8.27. G. A. Simons, to Aircraft Park, India, 1.10.27. J. E. Davies, to No. 216 Sqdn., Middle East, 27.10.27. R. W. Steele, to No. 55, Sqdn., Iraq, 6.10.27. R. D. Adams, to No. 5 Sqdn., India, 1.10.27. S. G. Connolly, to R.A.F. Base, Gosport, 12.11.27. F. F. W. Hall, to Schl. of Photography, Farnborough, 14.11.27. R. H. Barlow, to No. 443 Flight, 24.10.27. V. G. A. Hatcher, to R.A.F. Training Base, Leuchars, 24.10.27.

Pilot Officers: R. F. Part to No. 7 Sqdn., Worthy Down, 17.10.27. N. A. Pearce to No. 7 Sqdn., Worthy Down, on appointment to a Permanent Commn., 24.9.27. H. F. Gower to No. 111 Sqdn., Duxford, 12.10.27. B. H. Ashton to No. 70 Sqdn., Iraq, 3.10.27. H. V. Forbes to No. 30 Sqdn., Iraq, 3.10.27.

Pilot Officers: N. W. K. Seeman, to Home Communication Flight, Northolt, 18.10.27. P. H. Jackson, to R.A.F. Depot, Uxbridge, 14.10.27. M. A. Smyth, to R.A.F. Depot, Uxbridge, 19.10.27. A. K. K. Calwell and B. M. Cary, to No. 26 Sqdn., Catterick, 26.10.27.

Stores Branch

Flight Lieutenant W. A. O. Honey to Schl. of Tech. Training (Men), Manston, 26.10.27.

Memoranda

190984 Flight Lt. E. B. Howden is granted an honorary commn. as a Sec. Lt., with effect from the date of his demobilization. *Gazette*, Sept. 20, relating to Sec. Lt. H. O. K. Ayling is cancelled.

RESERVE OF AIR FORCE OFFICERS

General Duties Branch

The follg. are granted commns. as Pilot Officers on probation:—
CLASS A.A.—G. T. Clark (Oct. 11); J. Reckie (Oct. 11).

Special Reserve

J. F. R. Hunter (Oct. 25); Pilot Officer M. J. Berlyn is promoted to rank of Flying Officer (Oct. 19).

The follg. are transferred from Class A. to Class C.:—FLYING OFFICERS.—E. P. Clacey (Sept. 23); F. G. Sinclair (Oct. 7); L. S. Webb (Oct. 7). PILOT OFFICER.—V. P. Field (Oct. 25).

Pilot Officer on probation N. N. Birks is transferred from Class AA to Class C (Oct. 19); Flight Lt. A. L. Lingard relinquishes his commn. on completion of service, and is permitted to retain his rank (Oct. 24). The follg. Flying Officers relinquish their commns. on completion of service:—D. A. Parrott (Sept. 18); A. Turner, M.M. (Oct. 12).

Accountant Branch

Flying Officer A. C. Pritchard resigns his commn. (Sept. 7).

Flying Officers: A. J. Cox, M.B.E., to Record Office, Ruislip, 21.10.27. J. W. Stokes to H.Q., Cranwell, 15.10.27. A. E. Evans, D.F.C., to R.A.F. Base, Gosport, 1.10.27. G. J. Gaynor to No. 4 Stores Depot, Ruislip, 31.10.27. F. E. R. Dixon, M.C., to No. 4 Stores Depot, Ruislip, 18.10.27. J. Davidson, to H.Q., Cranwell, 30.10.27. H. N. Davies to No. 6 Sqdn., Iraq, 14.10.27.

Flying Officer F. W. Felgate, to No. 70 Sqdn., Iraq, instead of to No. 30 Sqdn. as previously notified, 20.9.27.

Pilot Officers: B. Allen, O. D. Allerton, M. E. O'B. Atkinson, H. J. Butler, A. Connock, C. J. Cousins, C. M. P. Hartley, T. A. Head, D. G. McDiarmid, M. M. McMullan, H. W. Penney, E. F. Smith, C. L. Thompson, C. Thripp, and H. A. Wrigley, to H.Q., Cranwell, on appointment to Permanent Commns. (on probation), 15.10.27.

Pilot Officer R. B. Horstmann, to No. 26 Sqdn., Catterick, 11.10.27.

Accountant Branch

Flying Officers: W. R. Donkin and E. Smith, to Station Accounts Office, Hinaidi, 1.10.27.

Flying Officers: J. Lambie, to No. 26 Sqdn., Catterick, 11.10.27. W. R. Donkin, to H.Q. Accounts Office, Iraq, instead of to Station Accounts Office, as previously notified, 10.10.27.

Medical Branch

Flight Lieutenant (Q. Master Medical) W. P. Connolly to R.A.F. Hospital, Halton, 15.11.27.

Flying Officer J. D'I. Rear to R.A.F. Depot, Uxbridge, 30.9.27.

Squadron Leader W. F. Wilson, M.C., M.B., to H.Q., Middle East, 14.10.27.

Flying Officers: R. G. Freeman, to No. 2 Flying Training Sch., Digby, 17.10.27. L. Freeman, to No. 26 Sqdn., Catterick, 15.10.27.

Chaplains' Branch

The Rev. G. L. Robinson, D.S.O., to No. 47 Sqdn., Egypt, 15.10.27.

NAVAL APPOINTMENTS

The following appointments have been made by the Admiralty:—
Lieutenants (Flying Officers, R.A.F.): N. R. Courthope-Munroe, to *Vivid*, for *Courageous*, and for full flying duties in 445 flight (Oct. 14), and to *Courageous*, and for full flying duties in 445 flight (on commg.), amended orders: A. M. Pilling and J. M. F. Robertson, to *Hermes*, and for full flying duties in 403 flight (Oct. 26); and to *Hermes*, and for full flying duties in 403 flight on recommg.), amended orders.

Capt. O. H. Dawson, to President, for duty outside Admiralty for a period of 14 days (lent for short course of aerial navigation in R.A.F. stations Lee-on-Solent and Calshot) (Oct. 31).

Lieut. (Flying Officer, R.A.F.): E. E. Blackwell, appt. to *Victory*, for duty with R.A.F. flights cancelled.

A New R.A.F. Hospital

PRINCESS MARY VISCOUNTESS LASCELLES opened a new R.A.F. hospital at Halton R.A.F. Camp, Bucks, on October 31. Sir Samuel Hoare accompanied Her Royal Highness, and in his speech he said that the hospital would be the principal hospital for the R.A.F. and was on that account of great importance to the whole Service. It was not their intention to duplicate hospital accommodation where military, naval, and civil hospitals were available for their needs. At present they were making extensive use of naval and military hos-

pitals. At Halton they had the biggest Air Force station in the world, situated in a district where there was no alternative accommodation. Hitherto the hospital had been housed in huts which were erected early in the war and were converted, so far as they could be, for medical use. The new hospital contained 204 beds, including 20 for officers, 6 for nursing sisters, and 23 for the wives and children of airmen. After the opening ceremony Princess Mary was conducted round the wards by Air Vice-Marshal C. L. Lambe and the Matron.

CORRESPONDENCE

AIRSHIPS

[2163] One reads with sorrow the sweeping condemnation by Mr. Edward Spanner, M.I.N.A., in the general press, of all airship development, and in fact, if one took him seriously all scientific research in connection with airships of any kind should cease.

I do not wish to enter into a controversy about the Government's policy with R.100 and 101, as to whether the rigid is a possible proposition or not, but I think it is unfair for those who do not seem to realise that there are other types of airships, the semi-rigid, for instance, to condemn all lighter-than-air craft.

I think that in justice to the numerous concerns which are now pioneering with scientific research, we must admit that their efforts are extremely valuable. They are not subsidised—it is with their own money that they are experimenting, and yet they come under the category of the "cause of all airships programme."

If we are to stop all research, where will England and the British Empire be in a few years?

I do not think that Mr. Spanner can be taking into consideration the activity of Germany, America and Italy in airship research, otherwise I venture to suggest that he would be more constructive than destructive in his criticism.

Let us take, for instance, the opinion of one of the pioneers of shipbuilding, Sir Alfred Yarrow, who has just lately retired. Sir Alfred Yarrow stated that in his opinion shipping would receive its death blow from the airship. Surely, an engineer with his wide breadth of vision and careful consideration, does not make such a statement without due cause.

It would appear that a semi-rigid, could it be constructed for a price in the neighbourhood of £20,000, must be a very excellent commercial proposition. Such a ship could carry some 8 to 10 tons useful load, including fuel, with a range of anything up to 1,500 miles.

An aeroplane costs to-day £22,000 to £22,500, and carries 20 passengers, with a range in still air of only 340 miles.

From these facts it is obvious that from a commercial point of view the semi-rigid airship must be a very sound proposition.

Let us hope that Mr. Spanner will, in future, take more interest in developing sound research, which will be beneficial to commercial aviation, rather than merely criticising other people's programme.

C. F. M. CHAMBERS

Earl's Court, London,
October 24, 1927.

WING RADIATORS

[2164] In reply to Mr. C. F. M. Chambers' letter (No. 2161) *re* Wing Radiators, may I be permitted to point out that the Santos-Dumont "Demoiselle" machines constructed by the Clement-Bayard Co., Ltd., of France, in 1910 were fitted with radiators which had a series of long cooling tubes running from leading to trailing edges on underside of wing? These machines were used at the various aviation meetings in this country during 1910, notably Bournemouth's first. These machines were successfully piloted by M. Audemars, the Swiss Aviator. The writer possesses some good photos, which explain the above.

HAROLD SOLOMON

Willesden, October 28, 1927.

PERSONALS

Married

JAMES S. BROWNE, R.A.F., younger son of Mr. and Mrs. James Stark Browne, late of Southview, Caterham Valley, was married, on October 21 at the Cathedral, Hong-Kong, to ALICE MARGERY WREFOED, only daughter of Mr. and Mrs. H. F. Wreford, of Southcott, Caterham Valley.

At St. Matthew's Church, Braid Road, Edinburgh, on October 22, FLT.-LIEUT. LLEWELYN C. PALMER-JONES, elder son of Frank and Mrs. Palmer-Jones, Brondeg, Newtown, Mid-Wales, was married, to FLORENCE MARGARET, second daughter of the late David Craig CRABBE and Mrs. Crabbe, Edinburgh.

FLIGHT-LIEUT. H. R. McLAREN REID, D.F.C., son of the late H. Reid, of Buenos Aires, was married, on October 1, at St. Andrew's, Waterloo Street, Hove, to MARGARET, widow of Major H. A. GOLDSMITH, and elder daughter of Dr. Copeman, of Hove.

P.O. REGINALD GEORGE WEIGHILL, R.A.F., son of Mr. and Mrs. R. H. Weighill, late of Whitby, was married, on October 22, at St. Luke's, Redcliffe Square, W., to IRENE DRURY, daughter of the late Reverend H. DRURY-BAKER, and of Mrs. Henry Scott, of 59, Lexham Gardens, W.

THE "LION" CELEBRATES

At the Wharfedale Rooms, on October 28, with the tables arranged to represent the course at the Lido, with pylons at three corners and models of the Supermarine-Napier and Gloster-Napier aircraft suspended round the course, the Directors of D. Napier and Sons, Ltd., entertained the management and staff to dinner in celebration of the "Lion's Share" in Great Britain's victory at Venice. Some 200 guests were received by Mr. H. T. Vane, the chairman.

Thanks to the courtesy of Commander Perrin, of the Royal Aero Club, the Schneider Trophy was on view in a prominent position in the Reception Room at the Wharfedale.

The toast of the evening was "The Lion's Share." This was proposed by Mr. Vane, who read a number of messages which had been received by the firm from well-known people congratulating them upon their share in the Schneider victory. Mr. Vane thanked the staff for their splendid efforts. In the course of his remarks he mentioned that, as a mark of their appreciation of the way in which the whole works had pulled together and helped in the Napier success in the Schneider Trophy race, the directors had decided to provide a pavilion for the use of the Napier Athletic Club at a cost of £2,000.

Sir Harry Brittain supported Mr. Vane and stated that now Great Britain had won the trophy it was up to us to keep it and win it outright in three consecutive years, rather than spend five years in obtaining the three victories necessary to secure the trophy for good. He stressed the point that to ensure a successful result in the next Schneider race Great Britain would have to do as they had done in 1927—have the full support of the Air Ministry with properly trained Service pilots.

Mr. Pate, Chief Engineer, thanked Mr. Vane and Sir Harry Brittain for their appreciation, and said it was the splendid team work in the works which had brought success to Napier. Mr. Allen, the works manager, supporting Mr. Pate, made the interesting statement, as a demonstration of the wonderful way in which all pulled together in the Napier factory, that the geared engine which was installed in Flight-Lieut. Webster's winning machine was completed in the remarkably short time of 2½ months from when the idea was first considered until it was ready for fitting into the machine. After Mr. Wilkinson had added his thanks to the directors, on behalf of the designing staff, an enjoyable evening finished with Mr. Hutchinson, production engineer, proposing a hearty vote of thanks to the Chairman.

During the evening an excellent musical entertainment was given by Miss Joyce Flawn, Mr. Charles Terry and Mr. George Buck.

PUBLICATIONS RECEIVED

Technical Notes of the U.S. National Advisory Committee for Aeronautics No. 257.—Technical Preparation of the Airplane "Spirit of St. Louis." By D. A. Hall. July, 1927. No. 258.—A Warning Concerning the Take-Off with Heavy Load. By E. G. Reid and T. Carroll. July, 1927. No. 259.—"Alclad," a New Corrosion Resistant Aluminium Product. By E. H. Dix, Jr. August, 1927. No. 260.—Study of Open Jet Wind Tunnel Cones. By F. E. Weick. August, 1927. No. 261.—Tension Experiments on Diaphragm Metals. By H. B. Henrickson. August, 1927. No. 262.—The Installation and Correction of Compasses in Airplanes. By M. F. Schoeffel. August, 1927. No. 263.—A Load Factor Formula. By Roy G. Miller. August, 1927. National Advisory Committee for Aeronautics, Navy Building, Washington, D.C., U.S.A.

NEW COMPANY REGISTERED

AERIAL A.B.C., LTD.—Capital £500, in 300 10 per cent. preference shares of £1 each and 4,000 ordinary shares of 1s. each. Publishers, printers, advertising agents, etc. First directors H. C. Baxter and E. A. Falconer.

AERONAUTICAL PATENT SPECIFICATIONS

(Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.)

APPLIED FOR IN 1926

Published November 3, 1927

- 14,650. T. R. CAVE-BROWNE-CAVE. Steam-condensing radiators for aircraft engines. (278,407.)
27,433. SOC. ANON. DES ANCIENS ETAB. CHAUVIERE. Aerial machines. (265,547.)
29,794. A. G. CALABI. Parachutes. (272,844.)
32,787. U. NOBILE. Airships of semi-rigid type. (263,837.)

APPLIED FOR IN 1927.

Published November 3, 1927

- 4,281. A. G. CALABI. Parachutes. (278,574.)
8,341. P. E. FAGERHOLM. Bomb sight. (268,378.)
10,403. N. BUTE. Aeroplanes. (278,605.)

FLIGHT,

The Aircraft Engineer and Airships

36, GREAT QUEEN STREET, KINGSWAY, W.C.2.

Telephone: Gerrard 1828.

Telegraphic address: Truditor, Westcent, London.

"FLIGHT" SUBSCRIPTION RATES

UNITED KINGDOM			ABROAD*		
	s.	d.		s.	d.
3 Months, Post Free..	7	7	3 Months, Post Free..	8	3
6 " " "	15	2	6 " " "	16	6
12 " " "	30	4	12 " " "	33	0

* Foreign subscriptions must be remitted in British currency.

Cheques and Post Office Orders should be made payable to the Proprietors of "FLIGHT," 36, Great Queen Street, Kingsway, W.C.2, and crossed Westminster Bank.

Should any difficulty be experienced in procuring "FLIGHT" from local newsvendors, intending readers can obtain each issue direct from the Publishing Office, by forwarding remittance as above.